THE UNIVERSITY OF VALLE PUBLIC HEALTH PROGRAM: A PROTOTYPE INDIGENOUS GRADUATE PROGRAM IN A DEVELOPING COUNTRY

BY

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Dedicated to
my strong support system:

to Natalie and Susan,
my sisters, my friends,

and

to Sal,
my friend, a sister.

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Abstract of Dissertation Presented to the Graduate Council of the University of Florida in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy

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Chairman: James L. Wattenbarger
Major Department: Educational Administration and Supervision

The Master of Public Health (MPH) program at the University of Valle in Cali, Colombia, is a microcosm of graduate education in the Third World. This report analyzes the forces shaping the development of the MPH program and attempts to derive some insight into its current status through a multidimensional analysis of 16 indicators of quality that were chosen on the basis of their relevance to graduate education in developing countries. The indicators of quality can be grouped under the general headings of faculty training and productivity, student training and background, physical and financial resources, the environment facilitating faculty-student interaction, program completeness and rigor, and alumni productivity. Some of the indicators are qualitative and others are quantitative in nature; thus, the

methodology can be considered a form of case-cluster analysis.

It is concluded that the MPH program, despite political and funding exigencies, has successfully achieved a transition from its beginning as an internationally funded, foreign-based model to an indigenously funded, regionally focused master's program. The quality of the program has been maintained, its reputation has actually improved, and the faculty are increasingly being trained locally rather than abroad. The alumni are widely sought in the Valle region.

The pattern of development of the MPH program typifies a model that may be useful in the fostering of other indigenous graduate programs in the Third World.

CHAPTER I
INTRODUCTION

Background

Education is one of a country's most important resources, for it contributes significantly to society and the quality of life. In the nations of Asia, Africa, and Latin America, education is vital for economic, political, and social development. Education is nothing less than the utilization of human resources through the formation of skills and training (Coombs, 1965, p. 8; Haddad, 1981, p. 127). Thus, developing nations the world over have devoted much of their attention to education, the production of human capital.

The development of manpower and leadership begins at the primary and secondary school levels, and most of the literature on education in developing countries reflects this (Moreira, 1972, pp. 7 - 38). But graduate education and professional training are also critical. Because graduate education alone is "singularly qualified to offer the basic services needed in the education and training of professional persons and in the development of research scholars, it is probably the most strategic segment of our educational system" (Heiss, 1970, p. 3).

While it is impossible to estimate the impact of graduate education in a country's development, certainly the advanced training of political leaders, educators, technicians, scientists, and humanists is at the base of any significant advancement. Graduate schools have consistently provided the best trained poeple for leadership positions in government, commerce, and industry. Therefore, graduate education in the developing countries is a primary target for current research and assessment. In fact, the National Board of Graduate Education, while heretofore focused exclusively on U.S. graduate education, has advocated research with an international focus, thus recognizing the valuable insights to be gained by comparative studies of educational systems (Outlook and Opportunities, 1975, p. 67).

This study examines graduate education in Colombia, South America, utilizing a specific master's degree program as a research focus. From this intensive scrutiny of a particular program, a contribution is made to the literature on graduate education in developing countries.

Historically, developing nations have responded to the need for graduate education in two ways: by sending their students abroad or by establishing indigenous graduate programs (Phillips, 1973, pp. 16 - 25). Many developing countries (including the 19th century U.S.) have sent their most advanced students abroad, and some, because

of a lack of facilities, have sent abroad all of their university graduates desiring advanced training (Harbison & Myers, 1964, p. 57). Other developing countries with greater resources have developed some graduate programs, albeit even these depend heavily on foreign aid. Despite the development of local graduate schools, a nation usually will train its most advanced graduate students by sending them to foreign institutions (Carter, 1973, pp. 13 - 16).

Sending students abroad for graduate education has created several problems, most notably the brain drain, the acquisition of inapplicable skills, and Western ideas and a Westernized elite. Many newly independent nations argue that this reliance on foreign educational systems fosters continued dependence on former colonial powers (Walters, 1981).

Many graduate students who have earned degrees abroad do not return to their native countries and, thus, their countries lose a scarce resource -- highly trained personnel. (South America, for example, sent 29,000 students to the United States in 1972 alone [Open Doors, 1972, p. 12].) It has been argued that many of the developing countries are progressing more slowly because of the brain drain, i.e., they are unable to retain their own intellectual elite, highly trained technicians, and experienced administrators. These individuals are prime

recipients of government-sponsored grants for graduate education abroad. When such individuals elect to remain abroad, there is a double loss to their countries, in terms of foreign exchange foregone and, more importantly, the loss of human capital.

In addition to the brain drain, the second problem with graduate education abroad is the acquisition of inappropriate skills and highly specialized knowledge inapplicable in a developing economy. Students trained abroad do not necessarily fulfill their country's needs. For example, students, skilled in the use of sophisticated equipment (such as computers), have been of little use in countries with little or no advanced technology. Once the students have returned home, some have been underemployed because of inadequate jobs in their fields of specialization (Carter, 1973, p. 17). So widespread is this problem of mismatched training/education with national requirements, that the Institute of International Education gives foreign students in the United States the following advice.

> But equally important to you is the matter of job opportunities which will be open to you on your return home. You will be spending much time, money and personal effort to pursue advanced training in a foreign land and culture. You will have to face realistically the fact that the U.S. study program you will follow is designed specifically to meet the social, economic, and scientific needs of the United States with its multiplicity of

> business and industrial organizations, labor unions, a relatively unrestricted labor market, and democratic government. It is well to discover NOW the priorities in YOUR nation. As you consider graduate training, try to match your skills to your country's essential needs.(Sasnett & Sepmeyer, 1972, p. 5)

This statement recognizes that an educational system tends to reflect the needs of the country within which it is located.

At the same time that graduate students sent abroad are learning new skills and technologies, they are exposed to new values and attitudes. This acquisition of a Westernized perspective is not always viewed favorably. Hence, the third problem with imported graduate education.

Western-trained students have tended to become the national intelligentsia of their countries, frequently in charge of running universities, and the country itself (Benda, 1964, p. 410). Yet they have perpetuated an elitism, becoming Westernized in all things: reading foreign journals and gauging their prestige by how many international conferences they attend and the number of foreign publications they have (Fagen, 1973, pp. 14 - 21). In a sense, their attention and efforts are directed toward the developed West, and not their developing nations. Although they may remain in their homeland, their community of colleagues is foreign and their interests more beneficial to advanced societies than to their own (Walters, 1981).

Given the problems with training students abroad, there has been, of course, another approach in developing nations: the development of nationally based graduate programs. This approach has reduced the loss of students to more developed nations, the acquisition of inappropriate skills, and the importation of Westernized ideas (Gale, 1969, p. 144). Although the establishment of indigenous graduate schools is not without problems, many Third World nations have made the effort to do so based on both political and development reasons. That is, at the same time that dependence on foreign universities is reduced, education more relevant to the country's needs is provided. Colombia is one such developing country which has opted for national graduate education. The Master of Public Health (MPH) program at the University of Valle, Cali, Colombia, provides the data for an examination of an indigenous graduate program.

In the next section of this chapter, a brief history of U.S. graduate education is discussed, providing a useful background against which the development of Colombian graduate education can be viewed. Colombian graduate education has been strongly influenced by the U.S. education system, much as the U.S. was once influenced by the European systems. Later portions of this chapter consider the development of higher education in Latin America and Colombia, and introduce the dissertation problem and the methodology for this study.

Graduate Education in the U.S.

During early periods of U.S. history, Americans assumed that their education system was inferior to Europe's. Expressing that view, the President of William and Mary College in the early 1800's advised students that they had "better go abroad where these subjects are better taught than it is possible (I speak literally) they can for ages be taught here" (Storr, 1953, p. 130). Among the first of such U.S. students was Edward Everett, who was awarded a PhD at the University of Gottingen in 1817 (Eells, 1963, p. 21).

The exodus of American scholars to Europe was commonplace despite graduate programs in the U.S. Harvard University, for example, referred to a master's degree in its first statutes in 1642. Because many of Harvard's founders and faculty were from the British system, they provided for the MA degree which was taken seriously for a time. However, later it became meaningless and was awarded as a matter of course. This master's in cursu was summarized by one student as "keeping out of jail for three years and paying the five dollar fee" (Eels, 1963, pp. 75 - 76). In general, modest intellectual attainments were required for the MA, although this was not universally true (Storr, 1953, pp. 1, 153).

After mid-19th century, a few universities tried to rehabilitate the discredited master's from a merely honorific award into an earned pro meritus degree. The University of

Michigan, in 1853, was the first American university to award the new MA degree (though the in cursu MA remained until 1877). Concommitant with new, stringent standards for graduate education, the modern MA degree became generally accepted in the latter part of the 19th century (Eells, 1963, pp. 76 - 78).

The MA rehabilitation came along at approximately the same time that American universities were establishing a PhD degree, patterned on the German doctorate degree. The Sheffield Scientific School of Yale University, established in 1854, approved the Doctor of Philosophy degree in 1860 and awarded three PhD's the next year (Eells, 1963, pp. 21 - 22). Among the Yale PhD requirements were a year of residence, a comprehensive examination covering all course work, and a dissertation which made a contribution to knowledge. This, of course, is the foundation for present day PhD degrees awarded by U.S. institutions. "By instituting the PhD, Yale had systematized graduate study in the U.S." (Storr, 1953, pp. 57 - 58).

Although the groundwork was laid and graduate degrees awarded, the years before 1861 were ones primarily of aspiration and experimentation. The late 19th century was a period of entrenchment for graduate education in the United States, illustrated by the establishment of Johns Hopkins University in Baltimore. The founding of Johns Hopkins, a graduate

university based on the German model, led to the creation of separate schools for graduate study (Rudolph, 1962, pp. 334 - 335). The organization of today's graduate schools was decided then as being based on a German model superimposed on an undergraduate college which was based on an English model (Berelson, 1960, p. 10). The German example required a commitment to the establishment of a graduate faculty of arts and sciences, and to the idea of a body of teachers and students dedicated to scholarship (Rudolph, 1962, p. 334).

During this period certain issues were settled: namely, whether the United States should have graduate education at all, and if so, what kind of degree(s) and programs were to be offered, and how graduate education was to mesh with undergraduate study. "There was thus established the institutional form of recognition that has played such a central role in higher education ever since, though not always an uncontested one -- the conferring of degrees" (Berelson, 1960, p. 10). Although graduate schools were established, graduate schools without an undergraduate college were viewed as unfeasible. The issue of the highest degree (i.e., the PhD) was resolved, but the types of programs offered remain an evolving issue. Thus, the current structure of U.S. graduate study was formed before the beginning of this century.

As U.S. graduate education developed, there developed as well self-scrutiny and increasing pressure for standardization. The development of a graduate education system raised questions of purpose, programs, personnel, and quality (Berelson, 1960, pp. 16 - 24). From 1900 to 1940, everything in higher education was increasing in size. The graduate schools were no exception, growing in student population, number of degrees awarded, and the number of programs offered in different fields. The central questions, however, remained those of quality and purpose (Berelson, 1960, pp. 32 - 39).

After a century of development, the graduate schools reached a position of leadership in higher education. The U.S. graduate school acquired a number of distinguishing and durable characteristics: the internal organization, the single administrative unit for all graduate fields, the grading and examining system, the responsibilities of the graduate dean, and the combination of German graduate school atop the English college (Berelson, 1960, p. 39).

The lack of consistent reform in U.S. graduate education stems from the lack of clarity of purpose and the uncertainty of funding that have characterized it from the beginning. Only when agreement on purpose crystallizes is there likely to be consistent innovation and evolution (Mayhew & Ford, 1974, p. 92).

Throughout its history, U.S. graduate education has encompassed a range of different, at times contradictory, purposes. Several of them are enumerated below.

Character formation: the view of 19th century educators who thought that graduate education was intended to produce broadly-learned, well-rounded individuals.

Preparation of college teachers: historically, the preparation of both secondary and college teachers has been the most important concept, though there are differences of opinion as to what prepares individuals for teaching.

Research: a view which has pervaded graduate education and established the dissertation as the crux of the graduate program, and research productivity as the mark of a successful graduate student.

Preparation of practitioners: for those within professional fields (such as business administration and education), increasing importance is given to the varied vocational choices of graduates.

Custodial function: graduate education is used as a substitute for work or military service, or as an extended period of youth.

The existence of a myriad of purposes has troubled graduate education from its beginning; this issue will remain unresolved until there is a consensus among institutions offering graduate programs regarding their educational mission in this sphere (Mayhew, 1972, p. 145).

Since the late 1960's, there has been a rapid and extreme change in the external environment of graduate education: the labor market has shifted from conditions of excessive demand to excessive supply; and federal support for graduate education has been curtailed severely (Breneman, 1975, p. 1). Nevertheless, the graduate educational system has shown remarkable resiliency and stability (Breneman, 1975, p. 78). These changes indicate the necessity of reform in graduate education. But the question remains as to the content of the reform and the likelihood of its adoption (Mayhew, 1972, p. 26).

One view of graduate education sees it as a paradox: for although it has been subjected to almost continuous criticism expressing need for reform, the system has changed little since the early days (Heiss, 1970, p. 22). Another, quite different point of view, sees significant change:

> Around 1900, American universities were incapable of providing adequate training for scholars in many areas of learning. To become scholars, Americans felt they had to go to European universities. Within half a century, American universities developed to such an extent that they acquired the capacity to train scholars at the highest level in every branch of modern learning, and their faculties were making contributions to learning that have given them world prominence. Moreover, it is not only in one or two centers of learning that this is the case. I do not believe there is any record in the history of education that is any more impressive and remarkable. (Berelson, 1960, p. 214)

Berelson upholds this graduate dean's point of view when he lists the achievements of U.S. graduate education.

> In both educational and non-educational spheres, the graduate schools' stamp is accepted as a qualifying mark of competence, often the qualifying mark, so that the graduate school has become the chief screen of scientific and scholarly talent in the society.
>
> Its leading personnel have increasingly served as advisors and consultants on the largest issues of our national life -- foreign relations, economic affairs, scientific policy, civil rights and liberties, health and welfare.
>
> In one of its spheres it has become a key to the national security, and in others it has made direct contributions to the good life through the application of learning.
>
> In a relatively brief period of years, it developed an American brand of advanced training that surpassed the models abroad and not only held American students but attracted more and more foreign ones.
>
> And overlaying and underpinning it all, it has brought American research and scholarship to a position of world leadership and it has systematically furthered man's knowledge of himself and his world.(Berelson, 1960, pp. 258 - 259)

Regardless of the views of American critics of the U.S. graduate educational system (or perhaps because of these conflicting views), the United States holds a position of leadership in the community of world educators.

Because of this reputation for leadership, the graduate educational system in the U.S. can provide a worthwhile frame of reference within which to study systems of graduate education in other countries, and particularly in developing nations.

The similarity between the graduate educational systems in developing countries today and U.S. higher education during its nascent stage is striking. It must be recalled that Americans wishing further education were compelled to go abroad to pursue advanced study. As the number of Americans attending foreign universities increased, this reliance on European universities became problematic to Americans then as it is to nationals of developing countries today. Without denying the pre-eminence of European schools, patriotism demanded American graduate schools (Storr, 1953, p. 131). Once political independence had been achieved, cultural dependence was the next phase to be eliminated.

In 1837, for example, President Philip Lindsley of the University of Nashville expressed his concern:

> There should be schools, in short, for all the sciences, arts, languages and professions. So that no youth need ever cross the ocean to study and learn what ought to be taught much more safely and advantageously at home.(Storr, 1953, p. 6)

Professors George Ticknor of Harvard and James Dana of Yale, in their arguments for American graduate studies, focused on the need for preventing the nation's youth from turning to Europe for higher education (Storr, 1953, pp. 18, 57). Similar arguments are being advanced today in developing countries.

Higher Education in Latin America

Ironically, higher education in Latin America predates the establishment of colleges in the United States. The first university in the New World was the University of Santo Domingo in the Dominican Republic, established by papal bull under the authority of Pope Paul III in 1538. Unlike U.S. universities which were based on English or German models, this university was patterned after a Spanish model, the University of Salamanca (Benjamin, 1965, p. 12). By 1551, universities in Spanish America were established in the viceregal capitals in Mexico and Peru.

Until the 19th century, the colonial universities were founded by religious orders; after that period, most Latin American universities were secular institutions. During the struggles for independence in Latin America, the universities suffered, but those that survived carried on their activities of teaching, research, and community service (Benjamin, 1965, p. 18). Most recently, Latin American education has entered a period of growth.

The purposes of Latin American universities have always been varied. The primary objective has been one of preparation for the learned professions -- medicine, law and engineering. The second objective has been scientific research, and the third objective, closely allied to the research function, has been community service, particularly to the area adjacent to the university (Benjamin, 1965, pp. 30 - 31).

The need for advanced training in Latin American nations is acute, immediate, and of the utmost importance.

> It [the shift toward establishment of indigenous graduate programs] will have to be made sooner than most European or U.S. graduate school authorities would recommend. To do otherwise is to encourage the continued establishment of pathetic imitations of foreign research and other advanced study institutions -- imitations that are often . . . likely to be cherished and to impede the development of new Spanish-American graduate schools to serve Spanish-American ends. (Benjamin, 1965, pp. 202 - 203)

Benjamin sees this as a challenge to universities in Latin America. Only some will recognize the need.

Latin America's tendency to imitate the U.S. graduate schools when establishing its own graduate programs makes it all the more valid to investigate Latin American graduate education in the light of American educational standards.

Higher Education in Colombia

Colombia, a republic of approximately 27 million people on the northwest coast of Latin America, is a developing nation faced with typical problems of that area: low income level, lack of an infrastructure, heavy urban migration, an agricultural export economy, massive health problems, and high educational needs.

One of Colombia's major concerns is the advancement of education, i.e., making it more widely available and improving its quality (Low-Maus, 1971, p. 3). In 1975, for example, 65% of the population was functionally illiterate; at the other end of the spectrum, only 1.1% of all entering primary students ever graduated from a post-secondary institution (González, 1981, p. 243).

Higher education in Colombia, as in most of Latin America, follows a long tradition. In 1563, the school which was later to become the National University of Colombia was founded in Bogotá (Benjamin, 1965, p. 13). The 17th century witnessed the establishment of religiously affiliated institutions of higher education: Javeriana University of the Company of Jesus in 1622, the Colegio Mayor del Rosario in 1653, and the Franciscan Colegio Mayor de San Buenaventura in 1715. The universities established after the Republic gained independence formed

the nucleus of state universities with a concomitant emphasis on secular education. Other public universities were established in the 20th century, many of them after World War II. In 1979 there were 93 accredited universities in Colombia (36 of those, public institutions), with a total of 260,327 students and 25,916 teaching personnel employees (DANE, 1980, pp. 26, 39).

In May of 1964, the Colombian national government authorized recognized universities to award graduate degrees, specifically the master's degree (magister) and the doctorate (doctor). A survey taken by the Colombian Institute for Educational Loans and Advanced Training (ICETEX) of graduate school enrollment in 1964 indicated that such programs were offered in eight of the nation's universities and that 85.6% of those programs involved the medical sciences (ICETEX, 1965, pp. 61 - 63). Ten years later graduate education in Colombia had expanded considerably. In 1975 there were 21 universities offering 130 graduate programs to 3,248 graduate students; health sciences remained the largest area (ICFES, 1975, pp. 10 - 12).

In 1968, the national government made a major commitment to graduate education. The Colombian Congress created ICFES, the Colombian Institute for the Advancement of Higher Education, with the primary purpose of promoting graduate courses at local universities, and also generating employment for graduate degree recipients. A committee on

graduate studies was formed to compile an inventory of graduate courses available in the country and to organize and promote the establishment of graduate schools within Colombia's educational system. As of 1969, graduate programs had been organized in the fields of agriculture, engineering, and the social sciences. Doctoral programs were not yet offered, nor were they being organized (Eusse Hoyos, 1969, p. 29). By 1975, however, Colombian universities graduate programs could award 56 specializations, two PhD's, four certificates, and 68 master's (ICFES, 1975, pp. 10 - 12).

When a compendium of the salient characteristics of the Colombian educational system was compiled by the Ford Foundation in 1971, graduate programs were in evidence at national, state, and private universities, as well as at cultural institutes, in a spectrum of fields from educational administration to industrial management (Low-Maus, 1971, pp. 74 - 81, 108 - 109).

The university system as a whole in Colombia is dedicated to the professional preparation of its students, but the purposes of graduate education are much more diversified. Significantly, the rationale for graduate programs in Colombia is influenced by the fact that it is a developing nation. Highly qualified individuals are needed for scientific investigation, planning, coordination, and for direction of political and economic life. Also,

university professors must be trained in order to supply their own higher education system (ICETEX, 1965, p. 61). Pure research is an idealized goal in Colombia, due to the lack of trained personnel and the limited funds available (Renner, 1971, pp. 98, 114).

Colombia's situation is very much like that of the rest of Latin America and the Third World in general. In order to educate properly those individuals who indicate the greatest potential, the national government has pursued a dual course sponsoring university graduate programs in Colombia and financially supporting outstanding Colombian professionals who pursue graduate study abroad (ICETEX, 1965, p. 61).

In a significant policy change, parallel to the decision made long ago by the United States when it decided to create its own system of graduate education, the Colombian government decided to expand the focus of its agency specifically designed for training Colombian graduate students abroad, ICETEX, a model for many of Colombia's neighboring countries. That agency, originally founded on the idea that graduate students must go abroad, also has begun funding students who have decided to pursue advanced training within Colombia (Renner, 1971, pp. 174 - 176). This change in attitude has come about with an increasing consciousness that the brain drain has become a serious problem. To illustrate, 85% of all MD's from Colombia

who specialize at medical schools abroad do not return to Colombia (La Educación ante el Congreso, 1972, p. 85).

Although some recent dissertations have examined Colombian higher education (Buttedahl, 1980; Cruz-Cardona, 1978; Forero, 1979),they have not addressed graduate education specifically. Nonetheless, Latin American graduate education is visualized as a burgeoning area for future research by one scholar (Benjamin, 1965, pp. 202-212) and one former Colombian university president (Ocampo Londoño, 1973, pp. 12 - 13).

Thus, an examination of a successful Colombian graduate program should reveal how a developing nation can establish other such successful graduate programs. The Colombian model can be used as a base upon which to determine those elements most useful to other developing nations interested in beginning or strengthening their own graduate level programs.

A study of a Colombian graduate level program will be of particular use to policy-makers, both in Latin America and in the United States. Decision-makers involved in foreign investments, foreign funding agencies, and governmental sources must be able to choose whether to contribute their money toward fellowships for foreign students to come to the United States (or elsewhere) or to invest in the creation and maintenance of national graduate programs. Thus, the study meets a need on a very practical level.

The Problem

Statement of the Problem

Programs of advanced training are vital for the achievement of a vigorous national university system in every developing nation desiring quality education. As U.S. institutions once began to establish their own indigenous graduate programs, so Colombia has attempted to do the same. Colombia's progress in these efforts is characterized by utilizing a theoretical framework long recognized by scholars of graduate education: the evaluation of quality. The criteria of quality are the yardsticks by which graduate programs justify their continued existence. It has been stated that "practically every major study of graduate education has concerned itself, at least indirectly, with the question of academic excellence" (Heiss, 1970, p. 21).

This study, then, examines the current status of Colombian graduate education in microcosm by focusing on an exemplary master's program in a selected institution; that program is profiled in detail to determine the viability of indigenous graduate education in developing nations as measured by 16 primary variables judged as critical determinants of quality culled from an ETS Technical Report sponsored by The Council of Graduate Schools in the U.S. (Clark, Hartnett & Baird, 1976).

Delimitations

The following restrictions were observed in conducting the study:

1. The focus of this study is the graduate program in public health at the University of Valle.

2. This study also is limited to an analysis of 16 selected variables which are listed in Methodology.

3. The time period for the examination of the MPH graduate program is from its inception as a graduate program in 1958 through 1978, with particular emphasis on the 1976 - 1978 period.

4. The data sources for this study have been limited to available internal documents from the Department of Social Medicine's graduate office, the University of Valle, and from other Colombian educational agencies. All of the internal documents and many of the secondary sources were translated by the author from Spanish.

5. The interviews conducted in Colombia in Cali and Bogota are limited to 35 individuals recognized as knowledgeable observers of the Colombian educational system in general and the Colombian graduate programs in particular. This pool of Colombian educators encompasses (a) administrators in Colombian public and private agencies supervising higher education and graduate education, (b) administrators of Colombian graduate education programs,

(c) members of graduate faculties, and (d) alumni of such programs. (See Appendix.)

6. The primary data are limited to that which was collected over a five-month period in 1977 during field work in Colombia.

Definition of Terms

Alumnus. A student who has completed all requirements for a degree or one who already has received that degree.

ASCOFAME. Colombian Association of Medical Faculties.

ACOMSAP. Colombian Association of Public Health Physicians.

ASCUN. Colombian Association of Universities.

COLCIENCIAS. Colombian Fund for Scientific Research.

DANE. Colombian Administrative Office of Statistics.

Doctorate. A PhD in U.S. degree nomenclature or a Colombian graduate degree, not to be confused with the Colombian basic professional degree of doctor awarded after completion of eight to 12 semesters of postsecondary studies.

Egresado. This classification, unique to the Colombian higher education system, refers to a student of that university system who has completed all course requirements for a degree except the thesis. These students are employed as if they already had the degree in hand and are considered alumni of their respective programs.

ETS. Educational Testing Service.

Faculty. Any professor teaching at least one course in the master's program under discussion. Both professional and non-professional faculty members are included.

FES. Foundation for Higher Education.

Graduate education. Studies beyond the undergraduate degree, usually within a structured academic university program, for the attainment of medical specializations, master's degrees, or PhD's.

ICBF. Colombian Institute of Family Welfare.

ICETEX. Colombian Institute for Educational Loans and Advanced Training.

ICFES. Colombian Institute for the Advancement of Higher Education.

ICSS. Colombian Institute for Social Security.

Indigenous. Native, locally-originated. This does not entirely eliminate the possibility of foreign origin through an earlier generation or historic period.

Magister (master's degree). An academic degree awarded after course work and/or a thesis beyond the undergraduate level. This degree equips students for university teaching, research and other professional activities.

PRIMOPS. Program for Systems of Health Services Delivery.

Salubrista. A medical professional employed by public health services in a variety of allied health fields.

Specialist (Specialization). A graduate award for completion of a certain number of credits after receipt of a basic undergraduate degree different from the U.S. degree title of Specialist. Its purpose is to train professionals in specific subject areas for in-depth knowledge.

SSS. Colombian Regional Health Services.

Staff. An individual on the payroll of a master's degree program or holding a position contributing to that program.

Student. A degree-seeking individual who is enrolled either full-time or part-time in a graduate master's degree program at an accredited university.

Methodology

The assessment of quality in the Colombian graduate education system took place in two phases to perceive the system in the most holistic manner. The first phase, interviews with knowledgeable educators in Colombia,provided information about the available universe of Colombian graduate education programs and, from that base, a sample master's program was drawn using the peer group reputational technique. This technique is a subjective evaluation of the quality of specific programs by experts in their respective fields (Hughes, 1934; Keniston, 1959; Cartter, 1966; Roose & Andersen, 1970).

The program chosen by this technique was the University of Valle Master of Public Health program due to its long history, its adaptability, and its responsiveness to the changing needs of the country.

The second phase of the study involved an in-depth analysis of the MPH program by the multiple indicator technique. This latter technique has been said to have at least four distinct advantages over a unidimensional procedure: (a) it is fairer, providing an overall perspective; (b) it is more useful, since both strengths and weaknesses are delineated; (c) there is less of a "halo" effect, wherein a good quality rating is more the result of previous ratings than an examination of the actual program itself; and (d) it is more likely to stimulate discussion of program achievements and shortcomings, and emphasize process (Clark et al., 1976, pp. 1.12 - 1.15).

The most comprehensive listing of program characteristics considered important to educational quality in graduate programs has been compiled in an ETS technical report written under the auspices of the Council of Graduate Schools in the U.S. and supported by a grant from the National Science Foundation. A recent national survey of graduate school deans yielded 300 variables which the deans thought to be essential to the evaluation of educational quality. That list was further refined

to approximatley 30 variables of program quality, subsumed within six general areas:

1. The training and productivity of faculty
2. Academic ability and achievement of students
3. Physical and financial resources
4. The academic and work environment
5. The academic program
6. Alumni achievements (Clark et al., 1976, pp. 1.21 - 1.22).

These variables can be viewed against a background of program purposes, discipline, and size, themselves all intimately related to the mark of quality (Clark et al., 1976, pp. 3.1 - 3.3). All of the above elements coincide also with an early statement made by the American Council on Education, that quality is the result of a combination of elements including the teacher, the learner, the curriculum, and the educational environment (Heiss, 1970, p. 20). Clark, Hartness and Baird's overall assessment was that there are no hard and fast rules about which quality indicators should be used and which should be ignored. They depend on the discipline, the purpose of the evaluation, and the setting (1976, p. 11.19). Another study utilizing multiple indicators of institutional excellence in graduate education was that of Heiss (1970, pp. 25 - 26), based on Bissel (1968) and Hatch (1964).

For the purpose of this study, it has been neither practical nor desirable to utilize all of the dimensions listed in the Council of Graduate Schools survey and the Heiss (1970) study. Rather, attention has been given to those variables which have seemed most suitable for research purposes in Latin America. Some of the Clark et al. variables have been modified to accommodate ease in data collection and to make them more appropriate for the setting in which they were tested.

The taxonomy for data collection encompasses 16 adapted variables within the six broad areas listed above. Following is a list of these six areas and the 16 variables which have been utilized in this dissertation to explore the nature of Colombian graduate education. Later, in the section on operationalization, the variables are reformulated in terms to measure more easily quantities.

A. Faculty: (1) background and training, (2) research productivity, and (3) ancillary professional activities.

B. Students: (4) academic credentials of graduate students, (5) admissions selectivity, (6) attrition, and (7) average time for degree completion.

C. Resources: (8) amount and type of physical facilities, and (9) amount and type of financial resources.

D. Environment: (10) morale of faculty and (11) morale of students.

E. Program: (12) curriculum, (13) degree requirements, (14) student employment, and (15) evaluation of student progress.

F. Alumni: (16) employment after graduation.

The use of the selected indicators in this study should result in a clearer understanding of the meaning of quality graduate education in a developing country. Moreover, the study is particularly heuristic in that the theoretical framework developed for graduate education in the United States is applied in a new setting, Latin America. The study contributes to the testing of variables by examining their reliability and validity in different programs.

Aside from the theoretical application of this study, there is also a practical benefit. The analysis of the multiple dimensions of quality have revealed patterns of the origin and development of an existing graduate program in Colombia. This profile can be internally useful to the educational system in terms of program review and improvement (Clark et al., 1976, p. A25). Indicators of the quality of graduate programs are necessary in order to permit students individually to make personal career choices. More generally, these quality evaluations of

graduate programs can provide educational and political leaders with some knowledge about the patterns of establishing graduate programs in developing countries, thereby enabling them to make policy decisions which will affect society as a whole.

Operationalization of Variables

In this section the variables assessing the quality of education in the MPH program are transformed into more specific, representative indicators of excellence, based on the purposes and activities of the Colombian program itself, rather than a typical U.S. program. The differences between these transformed measures and the dimensions of quality described by Clark et al. (1976) also are addressed. The transformation has the effect of emphasizing the importance of certain components of the original variables that were not otherwise expressed explicitly, and also gives a modicum of comparability and uniformity to the data collection procedures. The original variables and their transformed measures are

A. Faculty

1. Background and Training

a. Type of degree

b. Rank within the university

c. Length of teaching experience

d. Origin of degree

2. Research Productivity
    a. Publication activity
    b. Types of publications
3. Ancillary Professional Activities
    a. Editorial positions
    b. Research grants

B. Students
1. Academic Credentials of Graduate Students
    a. Undergraduate performance criteria
    b. Admission tests
    c. Undergraduate institution attended
    d. Type of undergraduate degree
2. Admissions Selectivity
    a. New student applications
    b. New student admittances
    c. New student enrollees
3. Attrition
    a. Students entering the program
    b. Students completing the program
4. Average Time for Degree Completion

C. Resources
1. Amount and Type of Physical Resources
    a. Library holdings
    b. Laboratory facilities
    c. Computer facilities
    d. Classrooms and other instructional space

2. Amount and Type of Financial Resources
    a. Faculty salaries
    b. Faculty grants
    c. The PRIMOPS grant: a prototype
    d. Graduate student funding
    e. Funding for professional activities

D. Environment
1. Morale of Faculty
    a. Faculty gender distribution
    b. Faculty-student relationships
2. Morale of Students
    a. Student gender distribution
    b. Student-faculty relationships

E. Program
1. Curriculum
    a. Required course work
    b. Independent study opportunities
    c. Interdisciplinary options
2. Degree Requirements
    a. Clear statements
    b. Necessity for anticipated employment
3. Student Employment
4. Student Progress Evaluation
    a. Procedures
    b. Fairness and justice

F. Alumni

1. Alumni Occupations
2. Alumni Locations
3. Alumni Employing Institutions

There are several differences between these variables of quality and those used by Clark et al. (1976). For example, their study examined type and origin of degrees obtained by the faculty, emphasizing the rank of PhD and ranking the degrees on the basis of a rating of the degree-granting institution. However, since in 1968 only 1% of all professors in Colombia possessed PhD's and only 6.5%, master's degrees (Low-Maus, 1971, p. 91), the focus in this study is of necessity on another level. The lower level degrees are given greater emphasis and the origin of degree is rated primarily by consideration of the country where the degree-granting institution is located.

Another significant alteration in the listing of variables is the inclusion of Colombian/Latin American/foreign comparision of faculty members' research productivity and activity. This indicator provides insight into whether Colombian intellectuals, like academics in similarly developing nations, devote much time to foreign publications, international congresses, and foreign-funded research (Fagen, 1973, pp. 13 - 14).

Because Clark et al. considered faculty/student morale difficult to quantify, other indicators are utilized here.

The indicator labelled faculty-student relationships cannot be assessed objectively, but as is true of all the other indicators, it identifies and clarifies important questions and issues to bear in mind when discussing and researching the Colombian model of graduate education.

Sources of Data

The primary sources of documentation for this study were obtained from the Department of Social Medicine at the University of Valle. Additional sources of documentation were the Colombian Ministry of Education and other governmental agencies involved in higher education (e.g., ICFES, ICETEX, and FES). These sources include official internal records, reports, catalogues, brochures, and other materials describing the MPH graduate program at the University of Valle.

Secondary sources which are utilized in this study include published as well as unpublished historical accounts of graduate education in Colombia, scholarly articles in Colombian journals of graduate education, and historical accounts of the MPH program at the University of Valle.

Both internal and external authenticity of the documents is assumed. The records used as the data sources for this study were drawn from available resources in Colombia

during field work there. The files maintained on the MPH program were found primarily in the Office of the Graduate Coordinator. Access to departmental and University files were limited.

The document search was supplemented with interviews with educators and administrators within the Colombian educational system, as well as with officials of the MPH program itself. In all, 35 different individuals were interviewed, listed in Appendix A. The interviews were open-ended in format. Their focus was on the state of education in Colombia, an overview of graduate programs (particularly those in public health), and a verification of information already received by the author (i.e., to corroborate statements, to discuss gaps in primary source materials, and to clarify misleading items of interest.)

Data Collection

The investigation of graduate programs in Colombian institutions, particularly the MPH program at the University of Valle, was undertaken during a five-month visit to that country. The duration of the site visit to Colombia extended from August 1977 through December 1977.

The first phase of data collection involved the identification of individuals in decision-making capacities *vis-a-vis* graduate education and/or those persons most knowledgeable about the history of graduate education in Colombia. After interviews had been established and

conducted with these individuals, a selection of the program for study was made. The University of Valle was visited, as were other major universities in Colombia. The second phase began here with a thorough examination of primary sources of data and later with in-depth interviews with administrators, faculty, and students at the University of Valle, thus supplementing and verifying the written documentation.

Organization of the Research Report

The organization of the remainder of this study is as follows: Chapter II contains a review of pertinent literature which will cover areas such as Colombian graduate education and its historical evolvement, quality assessment studies of the master's degree, and quality in graduate education. Chapter III discusses the background of the graduate public health program at the University of Valle. Chapter IV presents a holistic discussion of the MPH program, utilizing a variable-by-variable approach. Chapter V draws an analysis of the graduate public health program (i.e., specialization) and the MPH program at the University of Valle, and clarifies elements which are germane to the development of a Colombian model of graduate education.

CHAPTER II
REVIEW OF THE LITERATURE

The literature written on the specific focus of this study, a quality assessment of the Master of Public Health program at the University of Valle, is essentially nonexistent. To counteract this dearth of information the literature review will encompass the following broad areas: (a) the treatment of graduate education as a whole and master's degree education in Latin America and in Colombia; (b) prior evaluation of quality for graduate education and master's programs; and (c) methodological considerations in quality assessment.

Higher Education in Latin America

The role that higher education plays in the Third World, in Latin America, and in Colombia specifically, has been viewed from several perspectives. One approach to graduate education in developing countries is that it is but one aspect of the total educational milieu (Adams & Bjork, 1969; Niblett & Butts, 1972; and Perkins & Israel, 1972); González (1981), La Belle (1972), and Lipset (1967) focus upon the educational problems facing Latin America. A second perspective about higher education on the South

American continent is provided by examining it in the context of foreign aid and developmental assistance (The Assault on World Poverty, 1975; Carter, 1973; Haddad, 1981; Phillips, 1973). The plight of foreign students at American universities is examined by Lee, Abd-Ella and Burks (1981), the Association for Foreign Student Affairs (1980), and the Council of Graduate Schools (1980). Another perspective is obtained from official governmental documents and from internal observers of the country itself: Atcon (1966) and ICETEX (1965) are typical of such sources. All three perspectives provide a sound base from which to investigate graduate education, but this literature review focuses upon the last source as the most fruitful for gaining insight in Colombia's system of graduate education.

Graduate Education in Colombia

The principal agencies responsible for higher education in Colombia are ICETEX, created in 1950; the now-defunct National University Fund begun in 1954; ASCUN, initiated in 1958; and ICFES, which began functioning in 1968 (Franco and Tunnermann, 1978). All of these entities recognized the importance of graduate education in Colombia and were interested in coordinating and regulating such programs at the national level. However, it was 1969 before such action in the field of graduate

education actually occurred, in the form of a meeting of graduate program coordinators who analyzed the legal aspects of graduate education in their country and who discussed future government regulation in the area.

The first legal document pertaining to graduate education in Colombia was Agreement 4 (February 4, 1966) from the Colombian Association of Universities, National Board of Rectors, which proposed regulations for master's and doctorate degrees (ICFES, Note 1). The basis of this Agreement was Decree 1297 (May 30, 1964) which authorized governance of higher education. In response to the Agreement, Decree 2306 of 1968 was promulgated, stipulating requirements for the Magister degree. Decree 2306 was short-lived however, being declared null and void in February 1970 (ICFES, Note 1).

Before the voiding of Decree 2306, ICFES initiated a temporary National Committee on Graduate Education in Agreement 17 of 1969, which was then permanently instituted by Agreement 79 of 1972. The Committee had the specific objective of reviewing the state of graduate study in Colombia and of producing basic criteria on objectives, procedures, requirements and all aspects of organization, planning and regulation for future graduate programs. After an initial phase of data collection on the structure of graduate programs at various Colombian

universities (which also included information on the obstacles facing the graduate programs as well as projections into the future), the National Committee organized the first national seminar on graduate education in Colombia, "a landmark event in the country's history of higher education " (Troncoso, 1973, p. 3). The framework for this seminar was the dialogue established between the different universities and the ICFES National Committee.

In the perspective of the brief historical sketch above of the events leading to graduate education as a national priority, attention can now be given to the type of documents which ICFES and the seminar generated on the topic under investigation. In preparation for the seminar, the ICFES Planning Division (the Statistics Section) issued a document which, in effect, was a statistical summary of the graduate programs offered in Colombia in 1972 (ICFES, 1972). This document summarized the requirements for entry into the graduate programs as well as general conditions under which the schools offered graduate degrees. The statistical abstracts included the number of programs, their years of operation, costs, and the number of teaching personnel and students. Also included were the degree types and the degrees obtained by the graduate faculty. Another statistical summary was

published several years later with much of the same information. The statistics in the 1975 report compared the years 1971 and 1975. This new report eliminated statistics relating to costs and several other factors and, instead, placed greater emphasis upon the number of institutions offering degrees, the differences between academic areas, and the student population as a whole in graduate education (ICFES, 1975) in Colombia.

The Seminar on Graduate Education in 1973 generated a number of seminal documents constituting what is perhaps the most complete data base of graduate education in the country up to that year. Papers were included on three general themes: (a) the planning of graduate education in Colombia; (b) the organization of graduate study; and (c) the importance and overall significance of graduate education in Colombia. Each university which sent a representative to the Seminar was also permitted to submit a paper which issued the policy of that university on graduate education. In addition to an analysis of the Seminar, some discussions, rebuttals and argumentation are also included in the documents. Areas for experimentation in graduate education were also delineated, such as cooperative, inter-institutional arrangements, regional graduate programs, international cooperation for graduate programs, etc.

A document which deals with the meetings of the National Committee elaborates on the functions of the Committee, the rationale for membership choices, and reports on the various site visits which the Committee conducted at the different universities in the country, as well as preparations for the Seminar, and the evolution of the Committee's thinking vis-a-vis the major issues of concern to graduate education in Colombia.

The Committee members were selected for the support they could provide and for their experience in graduate education rather than according to some predetermined classification of higher education institutions. The membership included the directors of ICETEX, ICFES and ASCUN as well as personal representatives of those agencies and a representative from COLCIENCIAS. Aside from these members culled from the higher education bureaucracy, the universities with representation on the National Committee were the University of the Andes, the National University, the University of Valle and the University of Antioquia--a total of 10 members. Site visits were conducted at the Industrial University of Santander, the University of Valle, the University of Antioquia (incorporating all of the institutions in that region), the National University, the Higher School for Public Administration, the National Pedagogical University, the

University of Bogotá, and finally, the University of the Andes. The purpose of the site visits was to clarify the Committee's mission regarding graduate education, to generate information on the local experiences, and to evoke mutual agreement on the purposes, content and future development of graduate education in the nation. Both these pre-Seminar meetings and the Seminar itself were seen as critical for the establishment of some legal framework; the Committee goal was to provide some adequate planning in this area. The fundamental objective of the Seminar was to initiate at the national level (with the participation of the entire Colombian university system) an exchange of ideas and experiences in graduate education in order to precipitate planning at both the local and the national level. In their reflections after the National Seminar, the Committee considered it to be successful and recommended that seminars such as this be held in the future. Suggestions for the future included greater communication between separate institutions enhancing greater exchange of information, and greater internal communication within institutions so that working papers could reflect institutional positions more accurately (Troncoso, 1973).

A compilation of the alleged objectives of Colombian graduate programs, as perceived by conference participants,

encompassed a rather broad list. The most frequently mentioned objectives were excellence through specialized knowledge and research; greater breadth of knowledge in specific areas; current methods and research; revision of existing knowledge to incorporate new advances in a certain discipline; teaching, research and community service which similarly fall under general university objectives; continuous and frequent opportunity for teacher preparation and training to enhance the academic level of Colombian universities; the preparation of teachers and research scientists who would serve to promote development strategies; the opportunity to provide foreign students with training; basic scientific research which would lead to applied research; autonomous research which would overcome transfer of foreign technology through an adequate adaptation to the national reality; solution of both fundamental individual and community problems (ICFES, 1973, Grupos I - VI).

There seemed to be a general consensus that graduate education was indeed necessary within the Colombian educational system. Reasons given as justification for graduate education were as varied as the objectives given above. Graduate programs were seen as a method of improving undergraduate education in the country, as a method to more adequately utilize existing resources, as a

method to utilize more adequately existing resources, and as a method to utilize highly qualified individuals for research and teaching. The already large number of students doing graduate work both abroad and inside Colombia gave witness to the fact that there was a large market for the graduates of master's programs. A further justification for the inclusion of a graduate component in the Colombian system was the number of advantages of pursuing graduate course work in Colombia *versus* pursuing graduate course work abroad. A final justification, one mentioned previously under objectives in a slightly different way, is that the flourishing of graduate education in Colombia would aid in the solution of Colombia's problems (ICFES, 1973, Grupos II and VI, pp. 1, 2).

The Colombian educators present at the First National Seminar not only discussed intangible definitions and rationales but also suggested tangible policy measures *vis-a-vis* graduate education. The most general of these measures included a statement that there would be a group of selective and demanding criteria for the establishment of graduate programs (ICFES, 1973, Grupo III, p. 3). Regarding the establishment of a certain set of norms, it was stated that criteria must reflect the maturity of the institution, reflect the consensus of the institutions involved, and be imposed only by legally competent authorities (ICFES, 1973, Grupo V, p. 2-3).

It was suggested that Colombian social realities and problems be defined first before focusing on the graduate programs which were to provide solutions for that reality (ICFES, 1973, Grupo I, p. 4). Likewise, it was also suggested that inventory of available resources be taken before priority areas within graduate education were defined, to eliminate duplication of programs (ICFES, 1973, Grupos III and VI, pp. 2-4). Inter-disciplinary methods and systems as well as inter-institutional and regional partnerships were considered (ICFES, 1973, Grupo I, p. 4).

A policy measure which won almost unanimous approval was the establishment of a national central organism or coordinating body for regulating purposes. Clear elucidation of policy for graduate level programs was advocated at national and university levels (ICFES, 1973, Grupo I, p. 4; Grupo III, p. 4).

Other specific suggestions for future graduate programs were provided: that a corps of highly trained academicians be developed to staff graduate programs; that centers of excellence in research be designated; that every foreign expert be matched by a Colombian counterpart in order to fortify teacher training programs, that all economic resources for research be given to Colombian universities; that there be teaching methods taught for credit in every graduate program

(ICFES, 1973, Grupo III, pp. 3-5). Other suggestions included the improvement of already existing programs rather than the opening of new graduate programs, and the directing of state support by the government for designated priority areas in graduate education (ICFES, 1973, Grupo VI, pp.1-2).

In 1980, through Decrees 80-83, the Colombian government gave supervisory and evaluatory authority to ICFES over the entire spectrum of higher education (ICFES, 1981). In accordance with these responsibilities, ICFES formulated legislation and elaborated a theoretical framework under which to supervise graduate education. ICFES also distributed a survey form and compiled a directory of graduate programs. From these documents an assessment form was developed that is currently in use. Thus, the virtually complete autonomy exercised by graduate programs with respect to policy and quality assessment prior to 1980 is being replaced with a more centralized control.

Evaluation of Quality in Graduate Education

The first studies of quality in graduate education were based on reputational or prestige ratings, and this method of evaluation is still in use today (Cartter, 1966; Hughes, 1934; Keniston, 1959; Roose & Andersen, 1970; Solmon & Astin, 1981). The literature contains examples

of how "applied" ratings have been used to evaluate PhD programs (Drew, 1975; Clark, 1976) and to choose institutions for more intensive study (Dressel, Johnson & Marcus, 1970). The most recent material has yielded numerous checklists of characteristics for the assessment of graduate school quality (Balderston, 1974; Grodsky, 1979; Webster, 1981).

An even more narrow focus is represented by those scholars who have researched the previously identified dimensions of quality. Their findings are especially pertinent since their work in no small way provides the foundation for this study. The studies by Berelson (1960) and Heiss (1970), with student and program characteristics of quality, examine different dimensions from those analyzed here, but they are no less valuable since their publications brought recognition that such characteristics were indeed necessary. Lawrence and Green (1980) review how quality has been measured in the past, identify quantifiable indicators of quality for undergraduate programs, and discuss indicators in relation to accreditation and program review.

Methodological Considerations in Quality Assessment

This study utilizes the technique of multidimensional analysis of quality (Heiss, 1970; Webster, 1981) in examining the MPH program. It is a case history in the

sense that it studies a particular program in depth; thus it suffers the problems with statistical evaluation common to such analyses (Mintzberg, 1979). Nonetheless, the methodology does suit the purpose of the study, which is to provide insight (Stenhouse, 1979) into the status of Colombian graduate programs within their political and economic milieu and to present guidelines for future quality assessment evaluations.

Other methodologies for data collection include sampling surveys (e.g., ETS, 1981) and a mixture of the case history and sampling survey approaches, the case cluster analysis (McClintock et al., 1979). The MPH study utilizes the latter approach in some respects, since a number of knowledgeable Colombian administrators were surveyed before a single graduate program was chosen for an in-depth analysis.

CHAPTER III
THE UNIVERSITY OF VALLE: AN OVERVIEW

Chapter III details the Master of Public Health program at the University of Valle in Cali, Colombia. The chapter begins with synopses of each administrative unit within which the MPH program operates -- the University en toto, the Division of Health, and the Department of Social Medicine. Special attention is given to financial and administrative factors affecting the evolution of the program over a 20 year period, 1957 - 1958 to 1977 - 1978. Next, a historical overview of the MPH program's purposes and phases from its origin in 1957 is described. A summary of major changes completes the chapter.

This overall review is followed in Chapter IV by a detailed account of the MPH program during the 1976 - 1978 academic years, organized in terms of the variables of quality assessment outlined in Chapter I, i.e., faculty, students, resources, environment, program, and alumni.

The University

The University of Valle (initially referred to as the Industrial University of the Cauca Valley) was established on June 11, 1945, in the San Fernando area of Cali.[1]

The Decree 1296 of 1964 confirmed the University of Valle's status as a bona fide public institution of Colombian higher education. The general objectives of the University were

> to identify the necessities and the resources of the community and to act as an agent of change for the development of that community; to do general, applied and operational research; to train academicians, professionals, researchers and technical personnel; to cooperate in the administration and orientation of the collective welfare system; [and] to promote the cultural development of the region. (ICFES, 1977, pp. 86 - 88)

The University has a reputation for community involvement, organizational and academic innovations loosely based on the U.S. pattern (e.g., divisions and departments, and full-time, accredited faculty), and the ability to attract international financial assistance.[2] Based on this reputation, the University of Valle has been influential throughout the Colombian university system (Franco & Tunnermann, 1978, p. 180; Ortíz, 1971, pp. 82 - 83; Thompson, Fogel, & Danner, 1977, pp. 346 - 348).

A remarkably productive period of growth during the 1960's was followed in 1971 by a student crisis which precipitated a slowdown of the University's activities. However, by 1973 the University recovered and opened a second campus, the Meléndez campus south of Cali, providing a base for continued growth. The older San Fernando campus, where this research focused, houses the Division of Health, the Department of Social Medicine, and the University Hospital.

The University's undergraduate enrollment in the first semester of 1979 reached 7,820 students; the University employed in the same period 883 teachers.[3] The University of Valle is the third largest university in Colombia. (The National University of Colombia in Bogotá is first and the University of Antioquia in Medellín, second [DANE, 1980, pp. 26, 27, 31].) In terms of graduate education, the University of Valle ranks among the top in experience, the number of programs, and the number of students (ICFES, 1972, 1975). Over the five year period, 1970 - 1975, the University of Valle consistently ranked second in the nation in the number of students enrolled in graduate degree programs.[4] In 1975 the University of Valle enrolled 413 graduate students in 10 different graduate programs. (Note that the medical specializations were grouped together as one program.) By area, 226 students were enrolled in administration and economics, 164 students in health sciences, 10 students in the humanities, and seven in the exact and natural Sciences (ICFES, 1975, pp. 19 - 24). At the time of this study, the University offered course work in 11 master's programs and three doctoral programs (Universidad del Valle [UV], Note 2).

The University of Valle was one of the first universities in Colombia to offer doctorates (U.S.-defined), gaining eminence in the sphere of Colombian graduate education.[5] An additional indicator of the University's eminence in

graduate education is its firmly established reputation for research, much of which has been disseminated internationally.[6]

The administrative structure of the University is essentially hierarchical with three major levels: the Board of Directors, Office of the Academic Dean, and the Division deans. The University is headed by the rector who presides over the University Board of Directors. The Board, which has ultimate policy control over graduate education, is composed of the vice-rector, the academic dean, the dean of students, the deans of the individual divisions, the administrator, faculty representatives, and student representatives. (See Figure 1.)

At the next administrative level, the academic dean's office coordinates academic activities through various committees, such as the Central Curriculum Committee. These committees have selective jurisdiction over University graduate programs.

Still lower on the administrative ladder are the seven divisions, the deans of which oversee the graduate programs under their respective areas through their respective division boards and graduate subcommittes. The MPH program, under the Basic Sciences within the Division of Health, is represented on the Graduate Committee for Basic Sciences (composed of department heads and graduate coordinators).

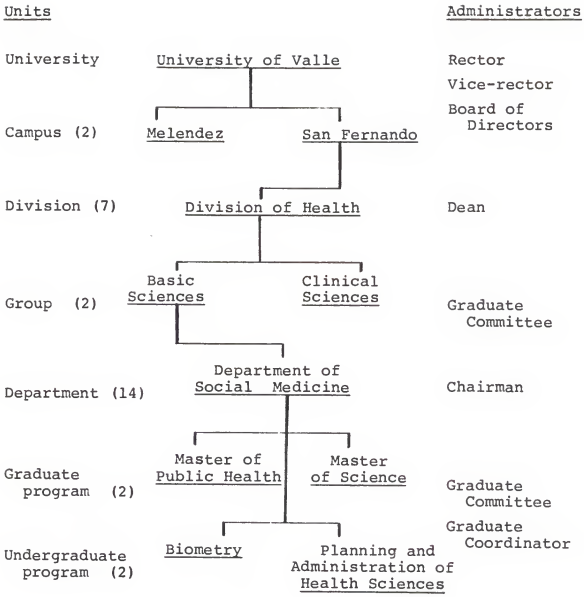

Figure 1

Organization of the University of Valle

University-wide policy for graduate study entails administrative approval at all of these levels. Other ad hoc policy-making bodies are created specifically in order to deal with graduate program changes or problems as they arise (Thompson et al., 1977, pp. 370 - 371; Pabón, Note 3; UV, Note 4, Note 5).

Division of Health

The Division of Health created by Decree 641 of 1950 as the Faculty of Medicine actively promoted training of health professionals and research to solve community and social problems. With seminal financial support from the Rockefeller Foundation and other international organizations and with advanced training abroad for many of the Division's faculty and administrators (Ortíz, 1971), it "became one of the leading medical schools in Colombia and in Latin America" (Thompson et al., 1977, p. 347). That many highly ranked Valle administrators were drawn from the Division of Health strengthened its prestigious reputation.

In 1954 the Division of Health was one of the first (if not the first) division to begin selective admissions of students and to impose requirements for teaching faculty. A year later, the Division of Health began to offer graduate course work which led to medical specializations in various areas (Ortíz, 1971, pp. 65, 75).

In 1975 the Division, the third largest division of health in Colombia, enrolled approximately 164 students in the health sciences: 157 students in various medical specializations, three in physiology, and four in morphology (ICFES, 1975, p. 21).

The Division of Health is presided over by a dean and associate deans who have responsibility for the areas of Clinical and Basic Sciences. Under these two basic groups, there are 14 departments. The chairman of each department sits on the Division Board. One of the departments under the Basic Sciences group is the Department of Social Medicine (Pabón, Note 6).

Department of Social Medicine

The Department of Social Medicine (initially referred to as the Department of Preventive Medicine and Public Health) was formed in 1955, the same year the Division of Health first offered graduate medical specializations. This Department, the first of its type in Colombia and in Spanish America,[7] is the largest department in the Division in terms of physical plant and services (Bobenrieth, Ortíz & Peña, 1977, pp. 9 - 10; Ortíz, 1971, p. 134).

In accordance with the University's educational mission, the Department of Social Medicine emphasizes both scientific research and applied, practical training in hospitals and community laboratories, thus utilizing an interdisciplinary

approach. The Department objectives are threefold:

1) to teach future professionals how to interact with the community in the practice of their profession;

2) to provide student researchers a means of observing the biological, socio-cultural and health conditions of the population at large; and

3) to provide medical services and offer practical solutions to families in need of them. (Ortíz, 1971, pp. 61 - 62)

The Department of Social Medicine, headed by a chairman, consists of two undergraduate sections (Planning and Administration of Health Services and Biometry) each with a separate coordinator, and a graduate section, the Master of Public Health (MPH) program, headed by a graduate coordinator (Pabón, Note 6).

The Chairman of the Department of Social Medicine retains overall responsibility for the MPH program. His role, primarily a supervisory one, requires that he meet monthly with the Graduate Coordinator for a current status report on the program and the course work in progress, thus enabling him to make decisions on the maintenance and improvement of the program's academic quality (UV, Note 5). In addition, he is empowered to settle grade disputes after both professors and the Graduate Coordinator have been consulted (UV, Note 7).

The Graduate Public Health Program

The Department of Social Medicine offered a graduate medical specialization in public health in 1957 certified by the Colombian Association of the Faculties of Medicine (ASCOFAME). This was the earliest of several phases of the graduate program, which has evolved from one offering only a specialist degree under the Clinical Sciences group into a full-fledged master's program under the Basic Sciences. To show how the program has adjusted to changing needs and resources, the various phases will be discussed.

The Specialist in Public Health, 1957 - 1968

What is now the MPH program is considered the oldest regional health care administration program located within a medical school and the oldest Colombian public health program (Bobenrieth et al., 1977, p. 9).[8]

The original goal of the graduate program in public health, even before the University of Valle was officially authorized to grant the MPH degree, was "the training of professional personnel for the adequate exercise of his specialty in his various areas" (ASCOFAME, Note 8). This was a broadly stated goal encompassing a wide range of specializations. Later, this goal was to be circumscribed.

In this, the earliest phase of the graduate program in public health, it was one of clinical training for

physicians, similar to other medical specializations. Student residents took part in individual tutorials several times weekly and combined this academic, theoretical work with practical administrative rotations of six months to a year at health agencies. Students were considered full-time, and were financed by various government entities, the University, and outside sources.[9]

Another phase of the program developed in the early 1960's. Physicians from clinical departments outside of Social Medicine were admitted, enabling them to combine their clinical training with course work in professional health care administration (Pabón, Note 6; UV, Note 9).

MPH: First Full-time Phase, 1968 - 1970

Eleven years after the medical specialization in public health began, the MPH degree was officially recognized by the University of Valle in Agreement 04 of 1968 (UV, Note 10). Interestingly, no program goals were stated in the Agreement. Shortly thereafter, however, a series of four skill-based goals were established for the MPH program. They were

1) to train the graduate student to make appropriate decisions in health matters on both an individual and a collective basis;

2) to train the graduate student to act as a health team leader with specific responsibilities of orientation, supervision and evaluation of medical functions performed by lower level health personnel;

3) to train the student in the scientific method so that he can apply it in the solution of any health problem encountered; and

4) to encourage life-long self-education which would permit the student to participate in scientific progress of the age. (UV, Note 11)

That official recognition of the MPH program in 1968 coincided with substantial Rockefeller Foundation support in that same year is not accidental. In 1968, for example, 70% of the MPH students (university instructors enrolled to upgrade their credentials) were Rockefeller recipients (Pabón, Note 3); these grants were to prepare college teachers.

Originally, Rockefeller provided grants, renewable for up to three years, for those students pursuing a master's degree. The amount varied according to outside sources of income and the number of dependents, with a maximum of U.S. $219 a month. The grant stipulated that the graduate student be affiliated with an institution of higher learning, and that he work at the sponsoring institution for at least double the duration of the degree program (UV, Note 12).

Since many graduate students were on Rockefeller Foundation grants and the program attracted foreign students, this was its strongest time period. Ironically, the year 1970, two years after official recognition of the MPH degree, proved to be a watershed for the program. During this time, the Colombian Ministry of Public Health decreased

and eventually stopped funding the program. Because of this administrative action based on a political decision, it was necessary to find alternative funding. (See MPH: The Part-time Phase.) This provided a strong incentive for the next developmental phase.

In the interim, discretionary funds from a Division of Health grant (which was not specifically designated for full-time graduate student stipends) were transferred to the MPH budget by the Dean's office. These funds came to be known as "accidental scholarships." Funding for other MPH students came from the Colombian Institute of Social Security during the years 1971 - 1973 (Pabón, Note 6).

Concurrently, the MPH program expanded its mission by admitting professionals, other than physicians, involved in health administration (e.g., engineers, lawyers, nurses, etc.).[10] Both medical doctors and other health professionals had to comply with identical academic requirements for the MPH degree, i.e., the required public health courses and a thesis (Zafra, Note 13). The physician students, however, had the option of taking a public health specialization, rather than the master's degree, if they did not complete a thesis.

The decision to admit a broader group of health professionals was based on the need (a) to prepare university teachers in other departments; (b) to fill personnel demands of the health services; (c) to train the

other personnel demanded under the medical team concept; and (d) to accommodate regional Social Security employees who were oriented toward service (Pabón, Note 3). Thus, a major thrust of the program was still full-time with various medical professionals, physicians, and clinical joint program students concurrently enrolled during this phase. However, a greater number of part-time students were also involved at this time.

New program objectives focused on the acquired skills of MPH graduates. They should be able to

1) describe and evaluate the health system services in the city, the region and in the country in terms of organization, planning, distribution and finances;

2) detect and define the state and level of health in a community, as well as the health services available in that community;

3) formulate plans and programs of health services;

4) evaluate the state and level of health of individuals and a community, as well as local and regional health services; and

5) develop scientifically rigorous research which would contribute to the solution of a problem found in the health services. (UV, Note 14)

These objectives presage an incipient emphasis on health services administration, much as in the current MPH program.

MPH: The Part-time Phase 1971 - 1975

A gradual shift in the MPH program occurred, changing it from full-time to part-time study with a special emphasis upon services administration. The University recognized that many of the Valle regional health services administrators had little or no public health training, and that, if this situation were to improve, a part-time program was necessary (Pabón, Note 6; UV, Note 9).

This change was hastened when the Ministry of Public Health stopped funding MPH student scholarships, due to political pressures from the national government. At that time, 1970 - 1974, President Pastrana Borrero intervened in the funding of the country's university system. In what came to be known as the Antioqueño period, Pastrana diverted funding from the other regional universities to the University of Antioquia.

Because this was a crucial phase, several details of this period are significant, especially those dealing with student support mechanisms. The new program combined service and academic activity as had the previous phases, but the altered schedule of 12 hours per week over a two year period facilitated the education of health agency functionaries already employed in administrative positions. These students kept their positions while complying with MPH academic requirements (UV, Note 9; Zafra, Note 13).

Previously, the regional health services had contractual financial responsibility for some MPH students. Under the contract, the health agency was obligated to pay MPH student matriculation fees. In return, the students were employed at the regional health agency while attending the MPH program. Their work at the agency focused on solutions to particular problems. Agency-sponsored students had to devote eight weeks of full-time residency in the Department of Social Medicine in order to do thesis research, and fulfill management training and teaching duties.

This contractual arrangement between the regional health services and the University for full-time MPH students was the model for the funding arrangements for part-time students. In fact, the major source of graduate student support (65%), during this phase, was the regional or municipal health agencies. The services paid the student matriculation fees as well as monthly sustenance allowances (UV, Note 15, Note 16).

During the "weekend" or part-time program, two additional students were funded by other departments, bringing the segment of MPH students funded by the University to 23%. Yet another 12% were funded by private, national Colombian foundations (UV, Note 16).[11]

Graduate student funding was a critical element in the Department's decision to terminate the MPH program in

the 1975 - 1976 academic year. During that time, the recess period was utilized for an intensive reassessment of the MPH program. This started a trend toward internal evaluation of all University graduate programs. Four public seminars, sponsored by the Department of Social Medicine, were aimed at restructuring the MPH program into a viable master's degree program (Pabón, Note 17).

MPH: The Current Phase 1976 - 1978

A reformed MPH program opened in 1976 as a one year program of full-time students, having integrated and benefited from all of the Department of Social Medicine's experience since 1968 (Zafra, Note 13). Consistent with University of Valle graduate policy, its objective that year was to contribute to

> the formation of professional health personnel (physicians, dentists, nurses, sanitary engineers, etc.) in the administration of health programs and services in national, preferably public, agencies, teaching and research in the various disciplines of public health. (UV, Note 18, p. 2)

In the next year, the purpose was almost identical, except that teaching and research were no longer listed as priorities. Instead, the courses were designed so that graduates could assume positions as Service Coordinator, Regional Unit Chief, Program Director, or other executive employment in the health sector (UV, Note 19). The new

program focused on preparing service and administration practitioners rather than scholars, researchers, or college teachers.

After the reorganization, a second graduate program in Social Medicine was added -- the Master of Science (MS). Admission to the MS program would require the MPH degree and would be oriented to research and university teaching, unlike the current MPH program (UV, Note 20).

This dual program was the University's answer to a national concern that teaching and research personnel be trained at Colombian universities rather than foreign ones (Zafra, Note 13). In fact, the faculty of Social Medicine believed that this MS program would be the only program in Colombia oriented solely to the formation of academicians in public health. The Department of Social Medicine seemed the appropriate place for such an offering because of its research reputation, and practical and theoretical experience. Both degree programs, the MPH and the MS, were approved by the Central Curriculum Committee of the University in October 1971 (UV, Note 21, Note 22). In September 1977, when the field work for this study was undertaken, the restructured MPH program was already in its second year, after the brief one year hiatus of 1975 - 1976. The MS program was operational as well, shortly to be approved by the University Board of Directors (Pabón, Note 23; Zafra, Note 13).

MPH Administration

The MPH graduate program is administered by the Department of Social Medicine within the Division of Health. Although the Dean of the Department of Social Medicine has ultimate responsibility for the program, the main administrative body is the Graduate Committee of the MPH program. The MPH Graduate Committee is composed of the Department Chairman, the Graduate Coordinator, the MPH professors, and a student representative (UV, Note 24).

Graduate Committee responsibilities, enunerated in official University regulations,are wide-ranging: the establishment of objectives for the different graduate programs, student selection, determination of curriculum and the academic calendar, authorization of matriculation for special students or the cancellation of registration for others, periodic evaluations of student academic performance, the resolution of student grievances, as well as the determination of equivalent course work and other academic requirements of the graduate degree (UV, Note 7). Within this purview, a great deal of latitude is afforded in the actual decision-making process. As it is confronted with various issues, the Graduate Committee makes policy and formulates MPH regulations. In other cases, the Committee merely clarifies University policy. At the option of the Committee, the entire Department faculty can be consulted for ratification of policy decisions (Pabón, Note 3).

Policy for the MPH graduate program is determined in a collegial fashion by the Graduate Coordinator, the Graduate Committee and the Department of Social Medicine.

The individual most responsible for the day-to-day operations of the MPH program is the Graduate Coordinator, elected yearly by the Graduate Committee. His responsibilities include program publicity, admissions, the graduate curriculum, student records, and administrative duties. He must

1) maintain a current MPH catalogue;

2) answer all requests for MPH program information;

3) review applications for all required documentation;

4) present applications for admittance into the program at the departmental meeting for approval or denial;

5) process the appropriate donor or sponsor agency contract with the University;

6) arrange an interview schedule for prospective MPH program applicants in accordance with graduate studies regulations;

7) set up a class schedule for MPH course work;

8) coordinate the programming of conferences, seminars, practicums and other teaching activities with the professors responsible for the courses;

9) maintain MPH student files with records of academic performance for the course work and other activities;

10) submit pertinent student information to the Department's secretary, to the Division's academic secretary, and to the Graduate Office; and

11) serve as the Departmental representative to Graduate Committee meetings. (UV, Note 5)

Although the Graduate Coordinator is responsible for these duties, the MPH Graduate Committee shares in all decisions.

The Graduate Coordinator is also given authority in grading and registration. For example, he can determine whether an incomplete grade can be justified. In the case of grading grievances, he can evaluate disputes for referral to the Department Chairman if warranted. He alone approves a student's registration schedule and any subsequent drops or course additions. (After the deadline dates, however, he must petition registration changes to the University Board of Directors.) In addition, he is the MPH official who certifies graduate student admissions, attendance and performance records for entities requesting such official information (UV, Note 7).

Summary

During the 20 year period from 1957 - 1958 to 1977 - 1978, the MPH program underwent dramatic changes in response to Colombia's need for skilled and well trained public health administrators. The changes were hastened, in no small way, by financial considerations. The University's

own grappling with the dilemma of educating future researchers and teachers, and training administrators meant that these functions received varying degrees of emphasis at different times.

Originally, the program in public health, grouped under the Clinical Sciences, led to a specialization for physicians. In 1958 the program was full-time and funded by multiple sources. By 1968 the program became a Master of Public Health program, with seminal funds from the Rockefeller Foundation. The initial MPH students were themselves academicians, but shortly afterwards, students were drawn from allied health fields, changing the emphasis from the full-time training of researchers and teachers, to the part-time training of health administrators, who were funded by contract with their employing health agency. In 1975 the Department of Social Medicine suspended the MPH program for reevaluation. In 1976 a strengthened, full-time program was created. The dual purpose of the MPH program was resolved in favor of the creation of a MS degree. That is, while the MPH program emphasizes public health administration, the MS focuses on public health research and teaching.

Notes

[1]Cali, the third largest city in Colombia, is the leading urban center in the fertile Cauca valley in southwestern Colombia. The city had close to 1.4 million population in 1980 and is expanding rapidly at a rate of about 6.5% per year, second only to Bogotá, the nation's capital. The city's excellent location at the mountain pass between the Cauca valley and the Pacific Ocean has contributed to its rise as a manufacturing center -- it is now the third largest industrial center in Colombia. The Cauca valley is perhaps Colombia's most prosperous and advanced sector. Of the population over 15 years of age, 93% are literate (Colombia Information Service, 1981).

[2]During the decade of growth in the 1960's and 1970's, initial Kellogg Foundation assistance was supplemented by Rockefeller and Ford Foundation funding.

[3]Of those 883 teachers employed at the University of Valle in 1979, 676 of them were full-time; 40 were employed half-time; and 167 were part-time employees.

[4]The University of Valle deviated only twice during this five year period when it ranked first in early 1974 and when it ranked third.

[5]Unfortunately, although the doctoral programs had been in existence since the early 1970's and courses were being offered, no students were enrolled currently.

[6]Between 1969 and 1973, 75% of 129 periodicals in which University of Valle faculty published were foreign (UV, 1974).

[7]Schools of public health already had been established in Venezuela (1938) and in Chile (1944).

[8]At this time, there were two other MPH programs in Colombia, at the University of Antioquia and at the National University. All were nationally focused public university programs with similar aims, but with a lack of uniform standards among themselves (Zafra, Note 13, Note 25).

[9]Many full-time students were supported by external foundations such as the Pan American Health Organization and the Rockefeller Foundation. The government entities which financed still other full-time students were the Colombian Ministry of Health, the Colombian Institute of Social Security and the regional health services.

[10]Although there is a record of a microbiologist having been admitted in 1962 and an egresado in 1964, the Department's policy change in admissions is evidenced in 1971 by the large number of non-physicians admitted to the MPH program (UV, Note 26).

[11]The two other University of Valle departments which funded the MPH graduate students were Pediatrics and Obstetrics; the two Colombian foundations were the Carvajal Foundation and the National Federation of Businessmen.

CHAPTER IV
QUALITY ASSESSMENT VARIABLES OF THE UNIVERSITY OF VALLE MPH PROGRAM

The variables chosen to operationalize the evaluation of quality assessment of the University's MPH program are examined and analyzed in this chapter. The variables and data are subsumed under the broad areas of faculty, students, resources, environment, program, and alumni. The data presented here are later applied in Chapter V in an analysis of factors affecting the quality of the MPH program at the University of Valle.

Faculty

Background and Training

Type of degree. The MPH faculty, members of the Department of Social Medicine, is an academically diverse group holding a wide range of academic degrees at various stages of completion. The background and training of the 1977 - 1978 MPH faculty[1] are presented in Table 1 (UV, Note 19, pp. 18-22). Two different categories of degrees are examined: the highest degree earned by the graduate faculty and the subject area of undergraduate degrees.

Table 1

Origin of Faculty Degrees by Type

Degree type	Institutions						Total	
	University of Valle		National Universities		Foreign Universities			
	#	%	#	%	#	%	#	%
	Highest degree earned[a]							
Doctorate					7	7	2	7
Master's					11	38	11	38
Specialist	7	24	1	3			8	28
Undergraduate	4	14	1	3			5	17
No degree	3	10					3	10
Total	14	48	2	6	13	45	29	100
	Undergraduate degree							
Business Admin.	1	3					1	3
Economics	1	3					1	3
Medicine	15	52	2	7	1	3	18	62
Nursing	1	3	1	3			2	7
Sanitary eng.	2	7					2	7
Sociology			2	7			2	7
No degree	3	10					3	10
Total	23	79	5	17	1	3	29	100

[a]The Doctorate category includes both PhD and DPH degrees. The Master's category includes MPH, MS degrees and four PhD candidates. The specialist category includes medical specializations in public health as well as one in another medical field. The undergraduate professional degree category incorporates two MPH candidates.

Table 1 indicates that the doctorate is the highest degree earned by the MPH professors; however, only 7% of the faculty held that terminal degree.

Except for the doctorate, the percentage of faculty members holding a particular degree is in direct proportion to its hierarchical level. Note that the non-degreed faculty members are statisticians.

This diversity of degree achievement is paralleled by the diversity of types of undergraduate degrees earned by MPH professors. There are six different types of degrees found in Table 1. The most popular undergraduate degree and subject area is medicine (62%).[2] Twenty-seven percent were awarded their first professional degrees in other areas such as nursing, sanitary engineering, and sociology (7% each). Token representation occurred in the areas of business administration and economics. This diversity in undergraduate subject area reflects the interdisciplinary nature of the MPH program.

Many of the MPH teaching staff had also earned post-baccalaureate degrees. The 15 intermediate degrees included six master's degrees and nine medical specializations (all but one in the field of public health).

Rank within the university. Table 2 (UV, Note 19, pp. 18 - 22) indicates that the ranking system for MPH teaching personnel is divided into two broad levels: superior level (SL) and intermediate level (IL). Superior level positions

Table 2

Faculty Degree Type by Rank

Rank[a]	Degree type										Total	
	Doctorate		Master's		Specialist		Undergraduate		None			
	#	%	#	%	#	%	#	%	#	%	#	%
Superior level												
Instructor			1	3	1	3	2	7			4	14
Lecturer			2	7	5	17	3	10			10	34
Assistant professor	1	3	4	14	1	3					6	21
Associate professor			3	10	1	3					4	14
Full professor	1	3	1	3							2	7
Subtotal	2	7	11	38	8	28	5	17			26	90
Intermediate level												
Lecturer									2	7	2	7
Assistant instructor									1	3	1	3
Subtotal									3	10	3	10
Total	2	7	11	38	8	28	5	17	3	10	29	100

[a]Other ranks on the superior level include titles such as research associate, adjunct faculty and visiting professor. These are positions held intermittently by people included on the MPH faculty but are not part of the traditional ranking scale. At the intermediate level, there are ranks of instructors and statisticians not shown.

are tenure-accruing, professional, and require at least an undergraduate degree. The ranks at the SL level range from instructor to full professor. In contrast, IL positions are non-tenure-accruing, non-professional, and do not require a university degree. The IL faculty members are recruited for their technical expertise in certain fields, e.g., statistics (Pabón, Note 3).

MPH professors are predominantly SL (90%). The highest proportion of MPH faculty (34%) hold the rank of SL lecturer (but see Note 1 at the end of this chapter). Assistant professor is the next most numerous rank (21%) with SL instructors and associate professors numbering 14% each.

All full and associate professors are full-time personnel.[3] However, lower ranks consist of fewer full-time personnel: assistant professors (67%), SL lecturers (70%), instructors (50%). The MPH faculty as a whole is composed of 76% full-time personnel; the remainder, half- or part-time.

The rank of full professor is held by faculty with at least a master's. Associate professors held at least a medical specialization and most teachers at this rank held a master's. Oddly enough, the assistant professor rank indicates all three types of graduate degrees (the doctorate, the master's or a medical specialization). The major difference at the SL ranks between full, associate and assistant professors and the lower-positioned lecturers and instructors was that the latter had only an undergraduate degree (7%) as their highest earned degree while the

former group of higher-positioned professors had at least a medical specialization as their highest degree. Faculty members with master's degrees were the only members who were represented at each SL rank; the IL ranks consisted solely of faculty members with no degrees.

Length of teaching experience. Table 3 (Pabón, Note 3, Note 6; UV, Note 19; Bermeo, Note 27) indicates the positive relationship between length of teaching experience and rank. As the mean number of years of teaching increased, so did the rank. While instructors, on the whole averaged 1 year of teaching, most assistant professors had accumulated 6 years, and full professors, 12 years. This did not hold true for IL faculty: their mean years of experience (7) was greater than the mean years of experience for the SL faculty (6). Those at the IL were so ranked because they had not earned an undergraduate degree rather than because of a lack of teaching experience.

There is a wide range of teaching experience at each rank which is not reflected in cumulative years total. The lecturers have accumulated experience which ranges from 2 to 7 years; associate professors range from 8 to 12 years; full professors from 9 to 15 years. Such variability is attributable to part-time teaching, i.e., lower rank faculty with many years of teaching experience and expertise have primarily been part-time professors (Pabón, Note 6).

Table 3

Faculty Teaching Experience by Rank

Rank	Faculty		Teaching experience[a]	
	#	%	Cumulative years	Mean
Superior Level				
Instructor	4	14	4[b]	1
Lecturer	10	34	40	4
Assistant professor	6	21	36	6
Associate professor	4	14	39	10
Full professor	2	7	24	12
Subtotal	26	90	143	6
Intermediate level				
Lecturer	2	7	14	7
Assistant instructor	1	3	7	7
Subtotal	3	10	21	7
Total	29	100	164	7

[a]1970 was the base year used to calculate teaching experience length, unless an earlier date was provided.

[b]This accounts for three of the four instructors since the teaching experience of one instructor was unavailable.

Origin of degree. Most of the MPH faculty earned their academic credentials from the University of Valle, as demonstrated in Table 1. Virtually every degree in the Doctorate and Master's categories was awarded by a foreign institution. When the highest degree earned was either a specialization or an undergraduate degree, these degrees were awarded by a Colombian university. Thus, a dichotomy exists between undergraduate degrees and highest degrees awarded (excluding the medical specializations).

The doctorates on the faculty were awarded by U.S. institutions (Harvard University and Ohio State University). Although all master's degrees were of foreign origin, they reflect diversity: Harvard University, the University of Puerto Rico, Johns Hopkins University (three from the latter school), the London School of Hygiene, and the Royal Tropical Institute. Master's degrees earned by doctoral candidates (also included in the master's category) had been awarded by the University of Minnesota, the University of North Carolina, and two from Johns Hopkins.[4] U.S. institutions dominate the above categories, in particular Johns Hopkins, which awarded more degrees to MPH faculty than any other school. The other foreign institutions include two in Great Britain. All faculty members with master's and doctorates received from universities abroad first were awarded medical specializations,and thus they had already completed some level of graduate education. A very much different picture emerges when one considers

the specialist degree as the highest degree awarded. All of these are national degrees; all but one (from the University of Antioquia) were awarded at the University of Valle in public health. When the undergraduate degree was the highest degree earned, it was from the University of Valle as well (except for a degree from the Pontifical Bolivarian University). In those cases where no degree was earned, faculty members had pursued their undergraduate course work at the University of Valle.

The origin of undergraduate degrees has a similar pattern. Seventy-nine per cent were granted by the University of Valle; 17% originated from other Colombian universities (three degrees from the National University, one from the University of Antioquia, and one from the Pontifical Bolivarian); and one from a foreign institution, the University of Buenos Aires.

Of the 15 intermediate degrees (six master's degrees and nine specializations), three master's degrees are from John Hopkins, one from the University of Minnesota, one from Ohio State University and one from the University of Valle.

On the current MPH faculty, there are 16 University of Valle graduate public health alumni, 13 with specializations in public health (seven as intermediate degrees and six as the highest degree earned). One had an MPH

degree (as an intermediate degree) and two were MPH candidates. Therefore, of 29 faculty members, 55% have either received or are candidates for degrees or specializations from the MPH program.

Research Productivity

While research publication is emphasized at the University's Division of Health, research productivity as a variable is perhaps not entirely appropriate. It is more appropriate to the U.S. educational system where research reports are the product of individual efforts and published for public use. In Latin America, as is the case here, research reports are written frequently by interdisciplinary teams for internal agency use. Such agencies include regional/national governmental health agencies (e.g., Ministry of Public Health, the Regional Health Service (SSS), the Colombian Institute of Family Welfare (ICBF), and the Colombian Association of Medical Faculties (ASCOFAME) (Pabón, Note 3). These agency reports are not included in this tabulation.

Another factor underestimating actual productivity is that many authorships were anonymous and thus not included in the tabulation. For example, numerous MPH faculty members contributed to research generated by the Program for Systems of Health Services Delivery (PRIMOPS) project, but it is not known what specific faculty member was responsible for which of the 11 training manuals of 20

pages each, 14 programmed instruction booklets of 20 - 60 pages each, two currently prepared manuals, and 11 manuals for supervisory activities (Thompson et al., 1977).

Publication activity. Ten MPH professors (approximately 45% of the resident faculty) had published or had participated in a research project and therefore were active researchers. Associate professors as a group were most productive, contributing 48% to the total publication output. Full professors accounted for 42% of the productivity. As Table 4 reflects (UV, 1974; Bermeo, Note 27), assistant professors did very much less publishing, none of it foreign.

Associate professors produced the most Latin American reports (38%), with full professors a close second. Associate professors were more active authors in each category, while full professors seemed active only in the production of journal articles. Only associate and full professors had foreign research publications to their credit (10% of each group).

In summation, the lower faculty ranks produced few research reports and none for foreign use. Again, associate professors accounted for research in each category. Full professors' research was found only in foregin journal articles.

Types of publications. In Table 4, the Books category includes books, monographs, and manuals, and the Articles category subsumes within it book chapters, book reviews

Table 4

Faculty Research Productivity by Rank

Rank	Books		Articles		Other		Total	
	#	%	#	%	#	%	#	%
	Latin American research							
Superior level								
Lecturer	1	1	1	1			2	2
Assistant professor	1	1	7	7			8	8
Associate professor	2	2	31	22	3	3	36	38
Full professor			30	32			30	32
Subtotal	4	4	69	73	3	3	76	80
	Foreign research							
Superior level								
Lecturer								
Assistant professor								
Associate professor			8	8	1	1	9	10
Full professor			9	10			9	10
Subtotal			17	18	1	1	18	20
Total	4	4	86	91	4	4	94	100

as well as journal articles. The Other category includes oral presentations of research material and miscellaneous activity such as films. Latin American research is meant to include all Spanish publications. Foreign research is written in English primarily.

As a whole, there were 94 research efforts or publications produced by the faculty up to the 1977 - 1978 period. Single-authored articles constitute 74% of the total scholarly output; co-authored articles account for 16%. Journal articles (which included both foreign and Latin American research) represent a full 91% of all scholarly publications of the MPH faculty. Books and other research represent only 4% each.

Of the 94 research efforts, 80% were in Latin American publications and 20% were in foreign publications. When we look at the dichotomy between Latin American and foreign research, it is seen that 73% of all research was in the form of either single-authored (62%) or co-authored (11%) journal articles in Spanish. Other Latin American research represented only 7% of total research productivity. Total Latin American output was approximately 80% of all research productivity, three times that of foreign research.

A sampling of foreign journals in which MPH faculty published includes the following: American Journal

of Obstetrics and Gynecology, Lancet, International Journal of Fertility, International Journal of Health Education, International Journal of Health Services, and Journal of Medical Education. Among the Spanish-language journals in which the MPH faculty published are: Valle Medical Record, Colombian Journal of Obstetrics and Gynecology, Antioquia Medical and Pan American Health Organization Journal. Of these four journals, three are based in Colombia.

Although seven articles were published in the six English-language journals, the four Spanish-language journals published 13 articles by MPH faculty. Of these 13 articles, 12 were published in journals based in Colombia, and half of these in Valle Medical Record, the official magazine of the Academy of Medical Sciences at Valle.[5]

Ancillary Professional Activities

This section examines editorships and research grants held by the MPH faculty members. The information for these ancillary professional activities (including the data found in Table 5) is based on the MPH faculty curricula vitae, on a historical review of the Department by the Graduate Coordinator, and on the latest official publication of the University of Valle research office (UV, 1974; Pabón, Note 3; Note 6; Bermeo, Note 27).[6]

Editorial positions. A total of three MPH faculty members held positions on the Editorial Board and the Board of Directors of the Valle Medical Record. Both full professors were editorial board members. Two professors were on the Board of Directors of the journal as well: a full professor served as its President; an assistant professor was simply a member (Corporación Editora Médica del Valle, 1977).

Research grants. Of the current MPH faculty members, 15 different professors (51%) participated in research grants. In actual numbers, more assistant professors (five) were awarded grants than any other rank. However, only 83% of the professors at that rank were so involved. This figure contrasts with the full 100% participation of associate professors and IL lecturers. Research by SL faculty (93%) was far greater than that by IL faculty (7%). Although associate professors are only 14% of the faculty, they produced almost half of the research.

Table 5 indicates clearly that the lower the rank, the lower the rate of participation in research grants. However, IL lecturers show slightly higher participation (7%) than do the SL lecturers. These differences are a function of the length of time a faculty member has been at the University.

Twenty-six per cent of the research was funded by the University in institutional grants, and jointly sponsored grants by both Colombian and foreign agencies equalled this fraction. University-sponsored grants and foreign

Table 5

Faculty Research Grants by Rank

Rank	Institutional		Noninstitutional						Total	
	Univ. of Valle		National		Foreign		Joint			
	#	%	#	%	#	%	#	%	#	%
Superior level										
Instructor					1	4			1	4
Lecturer			1	4			2[a]	7	3	11
Assistant professor	1	4	2	7	2	7	3	11	8	30
Associate professor	5	18	1	4	5	18	2	7	13	48
Subtotal	6	22	4	15	8	29	7	26	25	93
Intermediate level										
Lecturer	1	4			1	4			2	7
Total	7	26	4	15	9	33	7	26	27	100

[a]A current MPH faculty member worked on this particular grant while still a graduate student.

agency-sponsored grants were awarded predominantly to associate professors. However, assistant professors were most active on grants funded by national agencies and on grants with joint sponsorship.

The greatest proportion of grants (80%) were interdisciplinary, inter-institutional team efforts. Only 20% of the grants were awarded solely within the Department of Social Medicine. Only one of these was an individual project.

Students

Academic Credentials of Graduate Students

Students entering the MPH program in 1977 - 1978 had to meet four admission requirements stipulated in the Graduate Catalogue. The first was the possession of an undergraduate degree from a recognized and accredited university, and verification by the Graduate Committee that the academic performance had been satisfactory. The criteria that defined satisfactory performance are discussed in the first subsection. Secondly, the prospective student was required to complete an application form[8] and to provide certification of two years employment in a profession. The applicant then had to complete a set of admissions tests, determined by the Graduate Committee, which are described in the second subsection. In the last

two subsections, the undergraduate institutions and the type of degrees obtained by the 1976 - 1977 and 1977 - 1978 students are examined.

Undergraduate performance criteria. The application form, which delineates both educational and professional experience, is examined by the Graduate Committee (UV, Note 28).

The score for each category is multiplied by the score in the next category, with a possible range of scores from one to 128, and then averaged for each student. The final tally for each student determines whether the applicant is eligible for the subsequent stage, the interview. Graduate Committee members do not necessarily disquality students from the next round of admissions requirements because of a low rank, because institutional and course content variation is not adequately reflected in the scoring procedure.

The Graduate Committee, in an effort to formulate more objective minimum standards for admission to the MPH program, stipulated that "satisfactory undergraduate academic performance" should be no lower than a 3.5 grade point average on a 5.0 scale. This average applies to all undergraduate course work attempted by the student; however, prospective applications for the 1976 - 1977 academic year were judged on their grade point averages specifically for public health course work.

Of the 13 applications for admission into the 1977-1978 MPH program, 11 applicants (85%) possessed satisfactory undergraduate records. Even those applicants without the minimum grade point average were permitted to complete the application process after they petitioned the Graduate Committee (Pabón, Note 3; UV, Note 24, Note 28)

Admission tests. The admission tests required by the Graduate Committee are separate and distinct components of the application process which, in its entirety, should be initiated approximately three months prior to the beginning of the academic year.

The interview is the first test for prospective MPH students. The formal session is conducted by a three-member panel chosen from the Department of Social Medicine. The panel reviews the student's past experiences, goals and motivation for seeking the MPH degree.[9] Panel members submit individual assessments of the candidates, afterward agreeing to a collective decision on the fitness of an individual candidate for the MPH program. This phase of the admission process is considered particularly important, especially for those students in professions other than medicine. For example, an attorney with otherwise acceptable credentials was not directly admitted into the MPH program until he could be interviewed to determine his suitability for such a degree.

The next step in the series is a pretest in mathematics and statistics to be taken the day that the student is interviewed. The examination, which covers concepts usually mastered in an undergraduate-level statistics class, must be passed with a minimum 3.8 score. Students are given study materials in preparation for this exam when they complete the written application form.

For those MPH applicants who do not pass the statistics pretest with the required grade, yet another testing mechanism is mandated. A 60-hour short course is offered by the Department of Social Medicine over a three week period. It reviews basic mathematical and statistical concepts up to and including analysis of variance. Students who are able to pass the course with a 3.8 grade based on weekly quizzes are admitted into the MPH program. Students also have the option of taking the statistics examination without attending the short course class sessions.

During the 1977 - 1978 academic year, 12 of the 13 applicants taking the pretest were required to take the short course. Of that number, 10 (83%) students attended the class sessions, six (50%) of whom passed the course with a 3.8 or above. Two students chose not to take the short course, thereby eliminating themselves from the admission process and subsequent eligibility for the program. Of the students who attempted the statistics

course, three students did not pass, thus prohibiting their entry as graduate students (Pabón, Note 3; UV, Note 24, Note 29).

Undergraduate institution attended. The students gaining admission to the 1977 - 1978 MPH program were expected to have received their degrees from an accredited university, while the 1976 - 1977 graduate students were required to possess an undergraduate degree (UV, Note 18). Of the 19 students enrolled in the MPH program since its re-initiation in 1976, 95% of them had attended undergraduate school at institutions within Colombia. Forty-three per cent of the MPH graduate students were undergraduates at the University of Valle (43%). In aggregate the current MPH students received their education from national public institutions rather than from the private sector: of the seven universities, the five public schools educated 74% and the two private schools, 21%.

In examining the two years more closely, it is seen that in 1976 - 1977, only 25% of the MPH students had received their undergraduate education at the parent institution of the University of Valle; however, fully 71% of the next year's group had received their degrees from Valle. The one foreign student enrolled at the University of Valle had studied previously in Spain.[10]

Type of undergraduate degree. In an interdisciplinary master's program, it is important to examine the types of undergraduate degrees of the program's students. The current MPH students were trained in eight different disciplines, most in health-related areas, as noted in Table 6 (UV, Note 30). The table indicates that 42% of the group studied medicine, the single largest undergraduate degree in the program. Of the remaining professions, nursing, bacteriology and sanitary engineering were the next most highly represented. Other disciplines[11] had only token representation.

There is some difference between each year's students in the range of professions. In its first year of operation, 67% of the students came into public health from six disciplines outside medicine; in the second year, 43% of the students entering the program represented only three outside disciplines. Note that 37% of the physicians did not receive undergraduate degrees from Valle, while a full 73% of the MPH student body from other disciplines did not graduate from the University of Valle either.

Admissions Selectivity

New student applications. The recruitment of applicants to the MPH program was accomplished by utilizing a dual approach: a concerted media effort with advertisements

Table 6

Student Distribution by Undergraduate Degree

Degree type	Students	
	#	%
Medicine	8	42
Nursing	3	16
Bacteriology	2	11
Sanitary engineering	2	11
Dentistry	1	5
Dietetics	1	5
Sociology	1	5
Veterinary medicine	1	5
Total	19	100

placed in major newspapers in Bogota, the nation's capital and locally, and visits by MPH faculty members to at least five of the neighboring regional health services. Table 7 (Pabón, Note 3) indicates that in the 1976 - 1977 term, a total of 16 applications were received. The next year there were 13 applicants, a decline of 19%.

New student admittances. During the 1976 - 1977 academic year, 13 students (81% of those who applied) were admitted as new graduate students, a decline primarily due to additional testing filters incorporated as admissions requirements. Only one student was admitted unconditionally; the remaining 12 candidates, having failed the statistics pretest, were admitted only after passing the statistics short course prior to entry into the MPH program. Those who were denied eliminated themselves by choosing not to take the statistics short course or by failing to reach the passing grade in statistics (a 40/60 ratio).

The number of students admitted into the MPH program reflected a policy decision on the part of the Graduate Committee to restrict the size of the student body from a minimum of 10 students to a maximum of 15 individuals. This "critical mass" was the level at which departmental resources could be utilized at optimal efficiency while providing maximum benefits for the MPH students. However, while the number of students admitted in 1976 falls within

Table 7

Admissions Selectivity of the MPH Program

Student classification	1976-1977		1977-1978		Total	
	#	%	#	%	#	%
			Admission ratio			
Admitted	13	81	8	62	21	72
Rejected	3	19	5	38	8	28
Applicant pool	16	--	13	--	29	--
			Entry ratio			
Enrolled	12	92	7	88	19	90
Non-enrolled	1	8	1	12	2	10
Admitted	13	--	8	--	21	--

this critical mass, the number of students admitted in 1977 falls short of the minimum (Pabón, Note 3, Note 6; UV, Note 24).

New student enrollees. Since the official opening of the restructured MPH program in 1976, 19 new graduate students have enrolled in the program. Only one student, a foreign candidate, chose not to enter the program after having been admitted. This is a 90% retention rate.

During the 1976 - 1977 academic year, 12 individuals (92% of those admitted) entered the program; during 1977 - 1978, seven students (88% of admitted students) took graduate course work at Valle. These numbers represent, respectively, 75% and 54% of the students who applied to the program (Pabón, Note 3).

Attrition

Students entering the program. The attrition rate (the rate of decrease in the student body over a period of time) is calculated as the percentage of students completing the MPH program as compared to the number entering the program.

In the first year of the current MPH program, 12 students were enrolled full-time. The next year, 1977 - 1978, there were seven students. Thus the rate of attrition in 1976 - 1977, the first year of the renewed program, is 33%.

No attrition rate is calculated for 1977 - 1978 students since they are in the process of completing their degrees.

Students completing the program. In 1976 - 1977, eight students had completed all the requirements for the MPH degree. The other four students enrolled during that year, considered egresados, were potential MPH degree candidates, having completed all of the course work except for the independent study component[12] (Pabón, Note 3).

Average time for degree completion. A minimum residency of one academic year of full-time coure work or three years of part-time study is required in the current MPH program. The maximum time limit is five years. Al eight students completed the requirements for the MPH degree within the one year period designated for the restructured program (UV, Note 18, Note 19, Note 30).

Resources

Amount and Type of Physical Resources

In addition to facilities and equipment specifically for the MPH program, MPH personnel have access to resources of the Department of Social Medicine, of the Division of Health, and of the entire University. (UV, Note 16). This practice of sharing physical plant resources is University policy (UV, Note 31). Such interdependence is of great value to the program.

Library holdings. Current MPH students have access to three libraries: (a) the University main library, located since 1973 at the new campus in Meléndez, (b) the Division of Health library on the San Fernando campus,[13] and (c) the Department of Social Medicine library (Ortíz, 1971, p. 82). Inter-library loan privileges are also available from other institutions[14] (Bobenrieth, et al., 1977, p. 30).

The main library contains 130,000 books and 1,992 periodical titles (ICFES, 1978, p. 68). The Division library houses 40,000 books and 40,000 magazine issues, and the Department library, due to its recent inauguration, has approximately 250 volumes (Llanos, Note 32).

Accessibility to the libraries is variable. The University's main collection, while the largest, is distant from the Division of Health. Also, the new Department collection is limited due to the start up stage of acquisition and cataloguing (UV, Note 24). Because the libraries remain open only during weekdays, availability of materials is restricted (Bobenrieth, et al., 1977, pp. 31 - 32). The accessibility issue was so problematic that students brought a grievance before the Graduate Committee on this issue.

Laboratory facilities. As the largest graduate program in one of the strongest units of the University, the MPH program benefits from the best medical facilities

in the region (Pabón, Note 6). Nineteen laboratories, containing highly specialized equipment, are available for graduate student training in the basic medical sciences (UV, Note 33). Audio-visual aids, e.g., slide and film projectors, replay projectors, slide carousels, and videotape, are available. No other MPH program in the region can boast of as much audio-visual equipment (Bobenrieth, et al., 1977, p. 32). While there are no laboratories exclusively designated for MPH use, students have access to the well-equipped Division laboratories.

Computer facilities. The Department of Social Medicine (and hence, the MPH program) shares a minicomputer Wang 2221 with other units on campus (Llanos, Note 32). Because several IL faculty members are assigned specifically to computer work, MPH access to the computer is enhanced (Pabón, Note 3).

Classrooms and other instructional space. The facilities of the Department of Social Medicine, constructed and equipped with Rockefeller funds, are considered the most extensive in the Division of Health (Ortíz, 1971, p. 134). The MPH program has instructional space in a wing apart from the other programs in the Department. The separate MPH wing, which enhances the program's image, includes an office each for the full-time Graduate Coordinator and for

a full-time administrative assistant. The wing also has offices for four full-time MPH professors and a classroom. This arrangement is convenient since the curriculum employs a chronological sequence approach (i.e., no more than one graduate class is being taught at a given time). MPH students have a special study room in an adjoining building which is open on evenings and weekends to supplement the limited library schedule[15] (Pabón, Note 3; UV, Note 24).

Amount and Type of Financial Resources

The MPH program has maintained financial viability by drawing on a variety of sources. Essentially, the program depends upon (a) the national government under the auspices of the Ministry of Education and the Ministry of Public Health; (b) various state agencies, such as the regional health services; and (c) international agencies which provide both technical assistance and direct financial aid.[16] The following discussion will provide the general pattern of program finances.

Faculty salaries. The MPH budget is part of the fiscal responsibility of the Department of Social Medicine. As MPH professors are also Department faculty members, the MPH faculty salaries derive from the Department budget. (Llanos, Note 34).

MPH faculty salaries range from U.S.$3,948 to U.S. $8,444.[17] This scale includes academic and professional

staff members, from the instructor level to full professor. For the physician faculty members, the pay scale is inferior to that of their peers in private practice who earn twice as much as faculty MD's (Pabón, Note 3). For MPH faculty in other disciplines, the disparity is not quite as large.

Administrative salaries and expenses follow in Table 8. (UV, Note 35) The Graduate Coordinator earns U.S.$5,260 annually and his full-time administrative assistant, U.S.$1,315. Expenses for Christmas and vacation bonuses, social security benefits and severance pay bring the total amount allocated for MPH administrative and office staff salaries to 85.4% of the MPH budget[18] (UV, Note 35). Thus, while staff salaries are low, they constitute the major portion of the program budget.

Faculty grants. In this section, faculty grant resources are assessed through the number of grants, sponsors and faculty assigned to work on the projects. Table 9 is a compilation of MPH faculty involvement in 15 grants sponsored by foreign, national and University funds (Thompson, et al., 1977, pp. 346 - 371; UV, 1974; Pabón, Note 3, Note 6; Bermeo, Note 27).

Jointly-sponsored projects listed are those which have involved both national and foreign agencies at different stages of the project's development. Fifty-three per cent of MPH faculty grants are wholly indigenous; in contrast,

Table 8

MPH Program Annual Budget[a]

Items	Expenses (in U.S. $)	
	US $ Actual costs	% of Budget
Operations		
Office	548	4.9
Publications	1096	9.7
Subtotal	1644	14.6
Salaries		
Graduate coordinator	5260	46.6
Technicians (part-time)	1315	11.7
Administrative secretary	1315	11.7
Bonuses and fringe benefits	1736	15.4
Subtotal	9626	85.4
Total	11270	100

[a]The budget does not include salaries of full-time professors who are paid directly by the Department of Social Medicine.

33% of the grants are wholly foreign sponsored. Joint sponsorship incorporates 14% of the monies awarded.

Nineteen sponsors are involved in these 15 awards. Although three of the grants involved more than one donor, jointly sponsored grants involved up to seven organizations. The University is the most committed sponsor with six grants. The Rockefeller Foundation is involved with four, and the Colombian national agencies (namely, the Ministry of Public Health, ASCOFAME, and ICSS) are involved in at least two grants each.

Approximately half of the MPH faculty (15 members) were involved in research grant activities. Their activity was not limited to work on one grant. One faculty member, for example, was active in eight different grants; another, in three projects; and three other professors in two grants.

The greatest number of MPH faculty efforts, nine, was funded by foreign or international organizations, followed by the University of Valle departments and joint sponsors which funded seven efforts each, and Colombian entities which supported four.

Since the University research philosophy is one of cross-utilization of academic, technical, administrative and financial resources, it is important to view the MPH grants in interdisciplinary terms (Thompson, et al., 1977, p. 367). Twenty-seven per cent of the 15 grants had the participation of only one MPH faculty member, while 11 (73%)

Table 9

Faculty Grants by Sponsoring Agency

Donor Agency	Faculty			
	#[a]	MPH	Other	Total
University sponsors				
Center for Population Studies		2		2
Department of Pathology		2	1	3
Department of Surgery		1	2	3
Department of Surgery		1	2	3
Department of Surgery		1	2	3
Subtotal		7	7	14
National sponsors				
Colombian Association of Faculties of Medicine (ASCOFAME)		2		2
Colombian Institute of Social Security (ICSS)		1		1
Foundation of Higher Education (FES)		1	1	2
Subtotal		4	1	5
Foreign sponsors				

Rockefeller Foundation[b]	2	5	2	7
International Development Research Center		1	4	5
Rockefeller Foundation		1	3	4
Rockefeller Foundation		1	1	2
Rockefeller Foundation		1		1
W. K. Kellogg Foundation		9	10	19
Subtotal		9	10	19
Joint sponsors				
U.S. Agency for International Development (AID) Tulane University Family Health Foundation Colombian Ministry of Public Health University of Valle National Planning Office Municipal Health Services	6	5	3	8
World Health Organization (WHO) Colombian Ministry of Public Health Colombian Institute of Family Welfare (ICBF) National Institute of Special Health Programs Colombian Association of Faculties of Medicine (ASCOFAME) Colombian Institute of Social Security (ICSS) Pan American Health Organization (PAHO)	7	2	3	5
Subtotal		7	6	13
Total		27	14	41

[a]Noted only in cases when there is more than one sponsor for an individual grant.

[b]Only agencies which have contributed financial support are included in this table. On this project, as with others, the "collaboration" of other national agencies are involved, e.g., the Foundation of Higher Education, the Valle Committee of the National Federation of Coffee Growers.

incorporated University faculty members in other programs. International agencies sponsored 19 University of Valle faculty members; University funds sponsored 14 faculty efforts; jointly-sponsored grants accounted for 13; and national monies funded five. This is the same pattern as that for MPH faculty participation analyzed alone.

The PRIMOPS grant: a prototype. The financial assessment of a particular grant can provide a key to the funding patterns of various sponsors. The following is a micro-study of the PRIMOPS grant, listed under joint sponsorship in Table 9.

In 1971, PRIMOPS was funded by the Tulane University Family Health Foundation with matching seed money from the University of Valle. This initial funding permitted program planning. In 1972 and 1973, Tulane University, the Agency for International Development (AID), and the National Planning Office provided funds for exploratory surveys of the community's health, demographic structure and socio-cultural conditions.

In October 1973, when the program became fully operational, resources were culled from the Family Health Foundation, Municipal Health Services, Ministry of Public Health and the University. From 1974 to 1976, the University continued its financial support of PRIMOPS, while the Ministry of Public Health increased its assistance eventually

replacing foreign sponsors as a major contributor. Despite decreased dependence on international funds, Ford Foundation aid was requested for internal evaluations of the project subsequent to 1976 (Thompson, et al., 1977; UV, 1974).

This sketch illustrates the institutional cooperation necessary for successful grants, and indicates the vagaries of financial support for such projects. Originally conceived as a joint commitment among national and international funding sources, the program evolved to rely ever increasingly upon national financing. Eventually, only indigenous funds supported daily project operations. Outside funds were solicited only to initiate a new phase of PRIMOPS. The University, involved in PRIMOPS from its earliest stages, nevertheless depended upon the increasing level of funding by the national government (under the auspices of the Ministry of Public Health) to replace international funding sources.

The hallmark of MPH faculty grants is initial foreign financial assistance to lay the groundwork. These monetary resources are matched and eventually replaced by national groups.

Graduate student funding. In the current MPH program, student matriculation fees and monthly sustenance allowances are funded by sponsoring agencies. The matriculation fees are on a sliding tuition scale, which means that certain

agencies are charged more than others. The Ministry of Public Health protested this arrangement and promised more student support if fees were lowered. As a result, in 1977 - 1978, the Ministry paid the same fee rate for their students as was paid for University-sponsored students, i.e., U.S.$137. Later this modification included all national agencies, and only foreign and Colombian students utilizing private funds paid the higher fees. See Table 10 (UV, Note 19, Note 37).

Aside from the matriculation fees, the sponsors paid monthly sustenance allowances to full-time students. These allowances were adjusted individually according either to the student's previously earned salary when employees of the sponsoring agency, or to individual commitments between student and sponsor. Sponsors for part-time students paid matriculation fees as well as transportation and per diem expenses while students attended courses (Pabón, Note 3; UV, Note 19, Note 36, Note 37).

When the MPH program reopened in 1976, every graduate student was promised funds by a health service (Bobenrieth, et al., 1977, pp. 57 - 58).[19] However, when one student was left without a sponsor, the Graduate Committee secured alternative funding through a teaching assistantship in the Department of Social Medicine (UV, Note 24).

In the next year, graduate student funds originated from various sources. The regional health service agencies financed three students (43%); the University financed two

Table 10

MPH Fee Schedule by Student Classification

Student classification	Cost (in U.S. $)
Full-time students	
Foreign students	$ 1,500
Colombian students	
Private funds	822
ICSS-sponsored	616 (25% discount)
Health services-sponsored	411 (50% discount)
University-sponsored	137
Part-time students	
Foreign students	$ 50 per credit hour
Colombian students	27 per credit hour

(29%); the Rockefeller Foundation funded one (14%) while one student was left without funds. Funds for scholarships, books, and a typewriter were requested from the Ministry of Public Health. One of these scholarships was requested as a salary supplement for a health service-sponsored student, an engineer (Pabón, Note 3). The National Planning Office (Human Resources Section) was considered a possible source of partial scholarships for MPH students (UV, Note 24).

The fees paid by the sponsor agencies to the MPH program are used for MPH operational expenses and salaries as well as for other University costs. Administrative overhead takes up to 25% of the fees. In descending order of importance, the medical services and the University research fund each absorb 10% of program income; the Rector's discretionary fund, 3%; the Division of Health Dean's office, 2%. Still another portion is channeled into student services: library privileges, application fee, insurance, university identification card, and other miscellaneous items (UV, Note 36). The proportions allocated to these items were determined in Resolution 399 of December 11, 1975.

Using the figures from Table 8 which examines the MPH administrative budget, the 1977 - 1978 per capita cost of the program is approximatley U.S.$1,610.[20]

Future funding arrangements have been explored in order to insure the continuous funding of the MPH program.

Both national and international alternatives have been reviewed. One such tentative plan involved a U.S. university which would provide scholarship monies for Colombian MPH students while in the Valle program and for those who continue their graduate work at that U.S. institution. Because of the possible disadvantages of such funding,[21] a search for other sources; e.g., Andean Pact cooperative agreements among member nations, was encouraged (UV, Note 24).

Funding for professional activities. The professional activities of the MPH staff (which encompass such items as travel, conferences and publications) are usually carried out within the framework of individual faculty grants; thus, specific funding for this area is relatively limited in the MPH budget.[22]

Currently, the financing of professional activities has varied. When MPH faculty proposed the creation of a medical sociology journal, the Graduate Committee did not reject the idea because of a lack of funds. Rather, it was due to the existence of similar magazines with a Latin American focus (UV, Note 24), and because a local scholarly journal, which receives no MPH funds, already provided a suitable outlet for the dissemination of some public health issues (Corporación Editora Médica del Valle, 1977).

Similarly, when a national conference initiated by MPH professors was not funded by outside sponsors (despite

repeated solicitations to the Colombian Ministry of Public Health and others), the University itself financed the reunion (Pabón, Note 6). The First Meeting of Graduate Programs of Public Health was held (albeit in a condensed format), because its objective of coordinating national policy in Colombian public health graduate education was considered important to the University and to continuance of the MPH program.

Thus, there has been a conscious effort to provide opportunities for professional development of MPH faculty. Funding for such activities has emanated from both national and international sources. When the MPH program needed funds for an important activity, the University was supportive once the project had been screened and deemed worthy.

Environment

Morale of Faculty

Faculty gender distribution. Only two female faculty members (7%) were included among the 29 professors in the 1977 - 1978 MPH program.[23] Both nurses, one held the rank of instructor and the other had just been promoted to lecturer. These were SL positions, although at the lower end of the ranking system. These two faculty members had received all or part of their academic training at the University of Valle, as former students of the MPH program (UV, Note 18, Note 19).

Faculty-student relationships. There are several vantage points from which this all-important interaction can be viewed; each has relevance for the overall environment in which the MPH program functions and the manner in which the faculty interacts with students. The first of these is the self-image of the faculty in the members' role as salubristas, public health practitioners. It is generally acknowledged that this occupational group commands relatively low prestige in Colombia compared to physicians in private practice. An image of salubristas as armchair theoreticians rather than as executive decision-makers has led to government indifference to their technical recommendations (Ortíz, Note 39). This "salubrista complex" is characterized by an ambiguous relationship with clinical physicians and their practice, unclear political linkages, and monetary difficulties (UV, Note 40). While the public health guild, the Colombian Association of Public Health Physicians (ACOMSAP), includes among its top-priority goals that of improving the status of the public health specialization (Ortíz, Note 39), the MPH faculty members view themselves as highly dedicated professionals striving for community welfare rather than for personal goals (Pabón, Note 6).

In addition to this public self-image, many MPH faculty members have another role vis-a-vis the program itself. Since many of them are MPH alumni, the bonds among

themselves and with the MPH program are long-standing. This "inbreeding" affects their interest in the program in some manner; they have greater vested interests in its future than do more recently affiliated members of the MPH faculty.

On another level, the faculty contributes to the establishment of the general parameters of the teacher-student relationship through its participation in departmental decision-making. Many issues of vital concern to the graduate program are considered and resolved before the entire body of Social Medicine professors (UV, Note 41).[24] In most instances, however, the MPH faculty yields its decision-making power over the daily functioning of the program to the Graduate Committee. The deliberations of the Committee have protected faculty members' rights in cases of faculty-student conflict. This occurred when a unit coordinator changed the grading procedure for the unit from a quantitative to a qualitative score. The Committee clearly asserted the principle of faculty autonomy in academic matters and decided in favor of the professor (UV, Note 24).

More specifically, the tutorial system has delineated very clearly the formal relationships underlying faculty-student interaction. The functions of the tutor were

1) to advise the student on administrative and procedural matters;

2) to supervise the student in field work and in other academic activities;

3) to advise the student in his choice of independent study topic (Unit 10) to be done in the first academic trimester;

4) to inform the Graduate Committee in writing every two months of the student's progress;

5) to meet with the student at least once a month at a time and place jointly decided for the aforementioned purpose;

6) to meet with the Graduate Committee at the end of each trimester to learn about the student's performance;

7) to notify the Graduate Committee of reasons for noncompliance with the above duties so that it can take measures which it deems pertinent. (UV, Note 42)

Tutorial responsibilities noted above reflect the administrative and curricular format of the reformed MPH degree program, e.g., student progress reports were to be turned over to the Graduate Committee; students were to be advised about an "Independent Study" project; tutors were given specific time stipulations for the performance of their duties (monthly meetings with their students and bi-monthly written progress reports). The system provided for tutor assignments for an initial probationary period of three months, after which changes could be made to the satisfaction of the student (UV, Note 43). Tutors were assigned by the Graduate Committee, usually two students per faculty member (Pabon, Note 3).

The tutorial system was the subject of an in-depth evaluation stemming from complaints that tutor-student meetings were difficult to schedule. The Graduate Committee addressed this problem by leaving one afternoon every week free from any other scheduled activities, thus providing more time for students to seek out their tutors. The Committee then requested that all tutors comment upon the viability of the tutorial system. The Committee position was that the tutors provided academic orientation to students and evaluated overall student progress; they also served as a avenue for moral support and encouragement. The tutors agreed that tutorials should be kept as an integral part of the graduate process but suggested that they be made more congruent with the academic curriculum and be utilized in conjunction with the various units (UV, Note 24).

Morale of Students

Student gender distribution. The male/female ratio of the 19 MPH students is distinctly different from that of the MPH faculty.[25] Table 11 indicates that the proportion of women enrolled in the reformed MPH program reached 47% (UV, Note 26, Note 30, Note 44) They represented six different disciplines of undergraduate study while males represented only three. The only profession common to both sexes was that of physician; the majority of males

Table 11

Student Gender Distribution by Undergraduate Degree

Degree type	Males		Females		Total	
	#	%	#	%	#	%
Bacteriology	-	-	2	11	2	11
Dentistry	-	-	1	5	1	5
Dietetics	-	-	1	5	1	5
Medicine	7	37	1	5	8	42
Nursing	-	-	3	16	3	16
Sanitary Engineering	2	11	-	-	2	11
Sociology	1	5	-	-	1	5
Veterinary Medicine	-	-	1	5	1	5
Total	10	53	9	47	19	100

(37%) had been awarded degrees in medicine while only 5% of the females had received the same degree. However, the situation is reversed in areas outside of medicine. The majority of females (42%) represented fields of bacteriology, dentistry, dietetics, nursing and veterinary medicine. The 16% of the males outside of medicine came from sanitary engineering and sociology. The largest single group of students, then, was that of women professionals other than physicians.

Student-faculty relationships. The faculty members' self-image as salubristas in Colombia, discussed earlier, reflects upon the students as well. This is evident in the increased peer group prestige that was visible after the MPH program reform. Medical students in the traditional clinical specializations approached MPH students for consultation and advice, an indication of the acceptance of public health as an equal discipline among other medical specializations (Pabón, Note 3). This feeling of leadership was buttressed by a mandatory curriculum requirement, the course on the Economic-Political Framework of Health Services. Among its purposes was the analysis of the health sector's role in the economic and political development of Colombian society. This permitted students a more objective view of Colombia's medical situation and the place of salubristas within this scheme (UV, Note 18).

The students' enhanced view of themselves as future public health professionals had definite repercussions in their attitudes toward the program and the MPH faculty.

Although the students generally have played a lesser role in the decisions which affect their relationship with their mentors, the students have had some input. A student member sits on the Graduate Committee, sharing in the deliberations of that group. The students also have been permitted to petition the Graduate Committee on matters which affect them, e.g., permission for an extra make-up seminar, exemptions from the language exam, grade change clarification, and library accessibility (UV, Note 24).

The students' impact has been particulary significant in the area of student-teacher evaluations. The purpose of these evaluations is to "obtain information about the quality of units with the intention of bettering them for future courses" and to judge teaching. Despite the possible disadvantages, e.g., subjectivity producing inaccurate assessments, the Department of Social Medicine has used such evaluations with satisfactory results. MPH students have rated professors on four qualities: (a) knowledge of content, (b) teaching method, (c) interaction with student group, and (d) capacity to motivate the group (UV, Note 45, Note 46). That such student evaluations are taken seriously is evidenced by the fact that the Graduate

Committee has, on occasion, discussed them with the intent of incorporating student suggestions into the program.

The third facet of the student-faculty relationship is the tutorial system. While the professor has certain functions which he must fulfill in his tutor's role, the student has certain rights which he can exercise. Students have provided the impetus for changes in the tutorial system. They have requested changes of tutors after the initial probationary period and have petitioned the Committee for free time in order to facilitate meetings with their professors (UV, Note 24). An even more powerful right is that of learning "the functions of the tutor and . . . communicat[ing] to the program coordinator his dissatisfaction with the performance of the tutor in his functions" (UV, Note 43). Thus, within the scope of the tutorial relationship, both students and faculty have great freedom which insures a good working alliance.

Another aspect, not previously discussed, is the quality of interaction among the students themselves. Solidarity within the student group is an espoused goal of the training process of the MPH program. The 1976 - 1977 student group, unified at first, but then divided, was uncommunicative and competitive. They stressed the value of a course focusing on collegiality, Group Dynamics, which was the first unit and a pre-requisite to further course work. Designed to help students work harmoniously

in a professional manner, to resolve conflicts, and to be "team" members, the course encompasses interpersonal relations, areas of personality and behavior modification, communication networks and group conflict (UV, Note 18; Zafra, Note 47).

The student cohesiveness engendered by such a course was to facilitate the day-to-day operations of the MPH program; collegiality would enhance the opportunity for more complete alumni follow-up studies insuring a thorough evaluation of the MPH program over time. Other than the pertinent course inclusion into the curriculum, student morale was upheld by the Graduate Coordinator himself, a sympathetic counselor known to the students as "Father Heart" (Pabón, Note 3). Collegiality was also encouraged by periodic academic-social activities among the students and favored by MPH program authorities (UV, Note 46).

Program

The objectives of the MPH program specify that its courses are meant "to contribute to the development of professional health personnel in the fields of health services administration, teaching and research duties in the various public health disciplines" (UV, Note 18, p. 3). The emphasis of the MPH program was directed to health services administration rather than to teaching or research. At the same time, it does not eliminate the idea of multiple disciplines;

it, rather, focuses on the updated purposes of the reformulated MPH program.

Curriculum

Required course work. Students enrolled in the MPH program during 1976 - 1977 were expected to take 10 courses as well as an independent study component. The courses were Biometry, Microbiology, Demography, General Health Services Administration, Maternal/Infant Care Administration, Environmental Improvement, Social Security and Occupational Medicine, Group Dynamics and Communication, Political-Economic Framework of the Health Services and Medical Care Administration. The independent study unit was labelled Essay Presentation. These units demanded a total of 1200 - 1320 classroom hours and 40 credits.[26]

During the next year, 1977 - 1978, the planned program consisted of 10 units, 45 credit hours which totalled 1350 classroom hours. One of these units was Project Development (Essay). It is not a curtailed curriculum; rather, topics apparently eliminated were subsumed into other units (as with Maternal/Infant Care into General Administration of Medical Care Programs); merged with other units (Biometry and Demography); or changed emphasis (the former Occupational Medicine unit focused instead on Social Security). This way, more subject areas were incorporated into the new MPH curriculum, e.g., Methodology

of Socio-Medical Research, Community Organization. Required course work for the current MPH program covered a wider range of subject matter, both in increased content and in the hours demanded for its assimilation.

In both years after the MPH program hiatus, those courses for which the greatest number of credits were given are in descending order: Biometry (and Demography in 1977), General Health Services Administration, the Essay, Environmental Improvement and Microbiology. The other units were allotted two credits each except for Group Dynamics, assigned only one credit. The number of credit hours corresponded to the number of classroom hours, e.g., 420 hours for Biometry and Demography while only 150 hours required for the Essay (UV, Note 18, Note 19).

The residency requirement for full-time degree candidates was a minimum of one year, including vacation periods. This full-time program was considered to be a "traditional" curriculum similar to that offered by other Latin American institutions, modified by individual faculty members according to their academic backgrounds. Thus, the English, Harvard and Hopkins styles were in evidence (UV, Note 9).

All students enrolled in the MPH program have been full-time students since its re-initiation, although it was possible to be a part-time student as well. Part-time course work entailed a three year residency with a minimum

of 14 credits annually. An additional requirement imposed on part-time MPH candidates was that they enroll in Biometry during the first year (UV, Note 18, Note 19).

The Graduate Committee makes virtually all decisions with respect to the required MPH curriculum. Before units are added, revised, changed, or integrated with other courses, the matter is discussed by Committee members. The Committee also discusses the appointment of professors to teach certain units and also calls upon faculty to discuss their course schedules and accept comments. Course bibliographies and possible textbooks for the units or text alternatives are also within their realm of authority. At times, members have changed the program schedule, expanding a given unit and have heard student petitions to express dissatisfaction with those changes. The Committee also has heard petitions for exemptions from certain "required" courses.

Decisions concerning the core curriculum often have interesting ramifications. When the Biometry unit curriculum was approved, it also was necessary to alter admissions requirements and to add prerequisites. Thus, a statistics examination was added for MPH admission because of the aforementioned curriculum decision (UV, Note 24).

Independent study opportunities. The independent study opportunities in the current MPH program are an integral part of the entire program. No longer an optional approach, an Essay or Project is the last unit of the planned program for the degree. This Essay has the purpose of being "an application of knowledge in the sponsoring agency" (UV, Note 24).

In 1976 - 1977 this assignment was allotted a two and a half month time frame for completion. In the 1977 - 1978 academic year, the time period given for the final 5 credit unit was shortened to a single month. The only stipulation was that the individual study would comply with the norms established by the Graduate Committee. An intriguing difference was that only 60 hours were allotted to the Essay during the 10 week time period in 1976 - 1977, while 150 hours of work were expected within the four week time frame of 1977 - 1978.

Another difference was that in 1976 - 1977, the independent study component was definitely a graduation requirement, but in 1977 - 1978, although the independent study component remained an integral aspect of the curriculum, there was no mention of it as being a separate and distinct requirement for graduation. However, only 40 credits were necessary for graduation, while completion of the Essay would bring the total to 45 credits (UV, Note 18, Note 19).

The fact that the unit is referred to as an essay instead of as a thesis is hardly accidental. The independent work expected was not a full-fledged thesis nor an original contribution to the field; neither was it regarded as another routine assignment. The Essay represented a middle ground between these alternatives: an independent research study designed to be applicable to the student's future and/or to current employment. The Graduate Committee recognized the need to clarify the guidelines for the project's approval.

The project was designed to allow the use of acquired knowledge, combined with applied methodoloty learned during formal course work, and to give the student the opportunity to apply both knowledge and methodology to reality. The student first discussed his ideas and choice of topic with his tutor, thereafter submitting a proposal (with justification, objectives, methodology and resources) to the official Projects Coordinator. That person was responsible for preliminary revisions and for determining the suitability of the topic. In this role, he was actually the first reader of the student's project. The Committee, however, reserved the prerogative to overrule the Projects Coordinator on topic choice, if necessary.

When the Committee received the approved proposal, it then appointed two readers (a subcommittee) to examine further the proposal and to make recommendations to the

student. The student, after incorporating these suggested modifications, submitted the proposal again to the Committee before beginning the final design.

The Committee actually exercised four options with respect to topic approval: (a) approval; (b) approval with certain mandatory modifications; (c) approval after revisions are made; and (d) the suggestion of a change in topic due to insufficient information. The Committee also decided whether a project was publishable.

Once approved, the final project was submitted in original and two copies to the Committee which then arranged a date for the oral exam. That exam lasted approximately two hours and took place before a group of colleagues, fellow students, staff, professors and reviewers of the project, who had graded the written work as well. There were no fewer than three reviewers present at the oral exam which represented approximately 20% of the total grade.

There are several items about this procedure which deserve mention. While the Committee had final control over the Essay, the student was permitted additional advisors who did not necessarily have to be University of Valle professors. In addition, although individual projects were preferred, cooperative projects were acceptable under certain circumstances. A project which included the participation of two or more students (or one to two students as well as a professor) was acceptable at the discretion of

the Committee. The Committee, however, reiterated the policy that substantial work would have to be done by each student.

Another important distinction is that the Committee made a provision for students who could not finish the final project in the time period allotted for the unit; instead, the student was to present a final design, some methodological testing or a check of the suggested instrumentation. The Committee stated that the degree would not be granted until the Essay unit requirements were completed.

In the 1976 - 1977 class, eight students (67%) completed the Essay requirement. Three of the projects were course designs for Endiometry, Demography and Social Security. The first was to be taught as a Sanitary Engineering course and the other two were Division of Health courses. The remaining five students presented sophisticated research proposals for larger studies to be financed and conducted by the Ministry of Health and governmental health agencies. One project was published as a monograph.

Independent study options also were available within the framework of the other required units. If deemed appropriate, certain students were able to conduct independent research, while the remaining students followed the unit as specified. Sanitary engineers, for example, who found the Sanitary Improvement unit too superficial, having themselves covered the basic concepts in their undergraduate programs, were permitted by the Graduate Committee to explore

the topic in more depth than their fellow students (Pabón, Note 3, Note 6; UV, Note 24, Note 49).

Interdisciplinary options. The MPH program is an interdisciplinary program within an interdisciplinary department and draws upon resources from a variety of disciplines. In addition to attracting an academically diverse student body (see Table 6), public health itself encompasses various academic areas, complementary to both clinical and basic sciences. The Department of Social Medicine (which offers the MPH degree) is comprised of various disciplines, all integrated into the curriculum. These are Epidemiology, Biostatistics, Demography, Health Care Administration, Health Planning, Environmental Improvement, Medical Sociology, Medical Education, Health Economics and Social Security.

The fact that the Department of Social Medicine collaborates with other departments in the Division of Health, such as Psychiatry, Pediatrics, Obstetrics and Gynecology, Surgery and Microbiology, enhances the interdisciplinary options of the student. The total teaching resources of the Department are buttressed by still other divisions within the University, specifically the Divisions of Engineering and Economic and Social Sciences and the Department of Industrial Administration (UV, Note 2, Note 18, Note 19).

An indicator of the range and depth of the interdisciplinary options available in the MPH program is the number of faculty members available to teach a certain subject area. The greater the number of faculty prepared in a field corresponding to a curriculum unit, the stronger is that specialty. Table 12 shows distribution of faculty strength in the various subject areas comprising the MPH program (Guzmán & Pabón, Note 50). Those areas which were strongest were Biostatistics, Mother/Infant Care and Health Care Administration, each with a minimum of 21% of the faculty trained to teach in those areas. Biostatistics and Health Care Administration are especially strong areas given that several MPH faculty have multiple specialties. The remaining disciplines are comparatively weaker with only token representation. The fact that some faculty are equipped to teach in several areas strengthens the Department. In addition, those fields which share faculty add depth to the Department.

Degree Requirements

Clear statements. The requirements for the degree were quite clearly stated in the official catalogue for the 1976 - 1977 program. In order to receive the MPH degree, the student was to have

1) satisfactorily completed the units and/or activities specified in the plan of studies, satisfactory performance as determined by the Graduate Committee to be a weighted average of no less than a 3.8;

Table 12

Faculty Specialties by Discipline

Discipline	Faculty members	
	#	%
Biostatistics	6[a]	21
Mother/child care	6	21
Social research	3	10
Environmental improvement	2	7
Epidemiology	3	10
Demography	3	10
Health care administration	6[b]	21
Total	29	100

Note: This includes all faculty members officially listed in the 1977 - 1978 catalogue. No adjustments are made for faculty members on leaves of absence.

[a]There are three additional faculty members prepared to teach in this area, but their main specialty is listed as Epidemiology.

[b]There is one additional faculty member prepared to teach in this area, but his main specialty is listed as Mother/child care.

2) completed a residency of at least one complete year in the MPH program or its equivalent in the part-time credits option;

3) presented and passed a directed thesis study as well as a final evaluation exam;

4) completed a total of 40 credit hours; and

5) demonstrated a reading ability in a foreign language determined by the Graduate Committee. (UV, Note 18, p. 12)

During the next year, these degree requirements remained identical, except that the third requirement was relaxed. It was no longer necessary to submit an approved directed thesis/Essay in order to receive the MPH degree that year, only to complete all units.

The Graduate Committee was the final arbiter of whether a student had fulfilled the degree requirements and recommended to the Department Chairman that a student be allowed to graduate. The Graduate Committee likewise determined what was considered satisfactory performance in the units and the degree of fluency and/or the language to be mastered by the student. To fulfill this requirement, an English test was given to students enrolled in the program. The Graduate Committee also heard petitions regarding degree requirements: students petitioned to be exempted from the language exam, but their request was denied (UV, Note 18, Note 19, Note 24).

Necessity for anticipated employment. Faculty members and the Division of Health administrators have long been

concerned with the anticipated employment of MPH graduates and the applicability of the academic program to subsequent professional duties. The Dean of the Office of Medical Education directly addressed this issue by promoting research of immediate utility to the health services, employers for prospective MPH students (Zafra, Note 25). Each component of the revised MPH curriculum was judged to be necessary for anticipated employment or it would not have been included in the program.

Apparently, it is the course work which is the desirable training, rather than the actual completion of the thesis since egresados can be employed immediately upon leaving the program. The MPH program evolved with this fact in mind; the time frame of the program now is shorter, with the degree requirement of the thesis somewhat altered to make it significantly easier for the student to obtain the degree and to enter the job market rapidly. In fact, the full-time students are committed to employment immediately after completing the program since their financial arrangements demand contracts with their sponsors. (See Graduate student funding.)

Student Employment

In the current MPH program, it is expected that full time students will not be employed while attending the required courses. Since their academic careers are made

possible through sponsorship by a prospective employer, they can devote all of their available time to academic activities.

However, if a student finds himself without financial sponsorship for some reason, the Graduate Committee discusses the situation in an attempt to finance the student. Such financing usually occurs via a teaching appointment in the Department of Social Medicine. Employment during academic training is not required in the MPH program; however, an admission requirement mandates at least two years of professional employment prior to entering the graduate MPH program (Pabón, Note 3; UV, Note 18, Note 19).

Student Progress Evaluation

Procedures. Student evaluation procedures revolved around course grades and a general evaluation of the student by his individual tutor which were provided, in turn, to the Graduate Coordinator and the Graduate Committee. The Committee also was involved in student evaluations by hearing petitions on grades, repeated course work, and on any matter related to student progress.

There are several levels at which student progress is evaluated. The most basic level is through formal testing (examinations, laboratory assignments, etc.), but evaluation is principally through the judgements of the professors who develop the different activities which comprise the plan.

Although no minimum grading scale was provided in the first year of the revamped MPH program, it was stated in the next year that the lowest acceptable passing grade for each unit was 3.0 on a 5.0 point scale. In reality, a much higher grade point is expected since a graduation requirement is a 3.8 average. No student can be exempted from any unit through a skills examination (UV, Note 18, Note 19).

The Office of Medical Education has established certain policies regarding student grading procedures. It was felt by that Office that the departments should take into account the Division of Health's standards and should consider assigning weighted grades according to criteria deemed important by individual departments. In addition, departments should determine whether part-time and full-time students are to be evaluated differently (UV, Note 46). The Graduate Committee also recognized that it should establish uniform guidelines for grading procedures.

If a grade were questioned, a student could petition the Graduate Committee that the grade be changed. One such instance occurred when the Committee had permitted a professor to grade students on a pass/fail basis rather than on quantitative scores, although pass/fail was not a common procedure. The Committee eventually reaffirmed the professor's decision. The students also petitioned the Graduate Committee for permission to re-enroll in certain units which they had not passed. Such petitions are not always approved.

Student progress also was determined by the tutor who transmitted an evaluation to the Graduate Coordinator and to the Graduate Committee. (See Faculty-student relationships.) The Graduate Committee periodically evaluated the academic performance of each student, and considered his promotion. The Committee also had the power to redesignate tutors, e.g., students whose evaluations indicated a need for additional work in the Biometry unit were assigned different tutors.

Fairness and justice. Several policies of the Graduate Committee attest to there being a sense of fairness and justice in grading. All grading procedures used by MPH faculty in their units as well as the general grading policy were brought before the Graduate Committee. When pass/fail grades were disliked by the students and the issue petitioned, the matter was discussed by the Committee. There were additional appeal procedures available to each student, as well as to each professor in the program. The Committee could either act in an advisory capacity, or utilize its decision-making power when necessary (UV, Note 19, Note 24).

Alumni

Among all of the variables measuring the quality of a graduate program, none has more long-term importance than the subsequent employment history of the students. The value of a particular degree is determined and enhanced

by the positions and the productivity of the degree recipients. In this section, the employment patterns of MPH alumni are analyzed in terms of occupation, institution, and location of employment from records kept by the Department.

Because the MPH program has evolved from a graduate program that first offered a specialization and only later the master's degree, it is appropriate in this discussion to include as alumni all students who have completed graduate work in public health. The Department of Social Medicine itself considers egresados, those who have completed all degree requirements except the thesis, as bona fide alumni. Indeed, their employment patterns are similar to those of students who have been awarded the actual degree (Renner, 1971, p. 116). Also, the students enrolled in the current program are considered alumni here because it was understood that they would return to their previous place of employment after completing their graduate study. Thus those students holding the public health specialization, the egresados, and the new students in the program provide a good base for the analysis of alumni employment patterns.

Alumni Occupations

The occupations of MPH alumni can be subdivided under the general categories of teaching/research, service/professional practice, and miscellaneous occupations (UV Note 9, Note 30, Note 44). (See Table 13.)[27]

The category Teaching/Research refers to university teaching positions and university-affiliated research positions.[28] The category of Service/Professional Practice signifies administrative work in the health services, including directorships of hospitals, district and municipal health centers, Social Security agencies, the Red Cross, and other posts with government ministries of health. Miscellaneous refers to occupations such as private practice, consultancies or employment other than those mentioned above.

Table 13, as well as the other tables in this section, permits an overview of alumni occupational choices and location of employment during the program's 20 year existence with a comparison of former and new programs.

Most former MPH graduates were employed in professional practice (46%); teaching positions were next most numerous (40%). The greatest proportion of any one class of MPH students to dedicate themselves to teaching was the 1968 group, heavily populated by foreign students on leave from their home universities. Immediately after their graduate work, 90% of the 1968 graduates returned to college teaching. After 1975, the proportion decreased slightly to 80%.

The students involved in the current program, when compared to those of the original program, intend to teach or do research (47%) rather than to engage in professional practice (37%) in what appears to be a surprising reversal of past patterns. However, the MPH alumni, in aggregate form,

Table 13

Alumni Employment by Occupation

Occupation	Former program		Current Program		Total	
	#	%	#	%	#	%
Teaching/ research	36	40	9	47	45	42
Service/ professional practice	41	46	7	37	48	44
Miscellaneous	13	14	3	16	16	14
Total	90		19		109	

preferred health services administration as their top occupation (44%) although followed very closely by academia (42%).

Alumni Employing Institutions

Table 14 organizes the data for the teaching/research alumni on the basis of employing institution. The Other category refers to entities unaffiliated with specific schools, e.g., one MPH graduate is employed by Pan-American Federation of Faculties of Medicine as director of international courses on health and population.

Immediately visible is the predominance of the University of Valle as the chief employer of most former MPH graduates who teach. A significantly smaller proportion of the teaching alumni are employed by other schools within Colombia. When the University of Valle is included with the other Colombian universities which have hired MPH graduates, however, it is seen that up to 72% teach in indigenous universities.

The pattern described above differs only slightly when one views the future teaching responsibilities of the current students. While 66% of the current alumni already are employed and supported by Colombian universities, a smaller proportion of this group is currently on the University of Valle faculty (44%). There is also evidence that as foreign student enrollment decreases, so does employment at universities outside of the country, i.e.,

Table 14
Teaching Alumni by Employing Institution

Institution	Former program		Current program		Total	
	#	%	#	%	#	%
University of Valle	18	50	4	44	22	49
National universities	8	22	2	22	10	22
Foreign universities	8	22	1	12	9	20
Other	2	6	2	22	4	9
Total	36		9		45	

the lone foreign student in the restructured MPH program is the only person with teaching employment in a nation other than Colombia.

At least 16 MPH graduates have taught in the University of Valle Department of Social Medicine, the department in which they received their degrees. While this figure constitutes 75% of the University's MPH employees, when viewed against all teaching and non-teaching alumni, the Department of Social Medicine has employed approximately 15% of all its alumni from its own MPH program (UV, Note 26). A total of nine foreign students enrolled in the MPH program have been employed by their home universities located in seven different countries. These universities, and in parentheses, the number of MPH graduates employed in those institutions are: Peru (3), Philippines (2), Argentina (1), Brazil (1), Mexico (1), and El Salvador (1).[29]

Table 14 shows 10 MPH alumni are involved in teaching and research at national institutions other than the University of Valle. All of the former alumni teach at public, graduate universities. In descending order according to the number of MPH alumni hired are: the National University (3), the University of Antioquia (2), the University of Caldas (2), and the University of Cauca (1). By contrast, the current program alumni are employed by the Free University of Colombia, Cali branch (2), a private, undergraduate institution[30] (UV, Note 30, Note 44).

Table 15

Employment of MPH Alumni by Location

Location	Former program		Current program		Total	
	#	%	#	%	#	%
Cali	49	55	8	42	57	53
Valle	10	11	4	21	14	13
Other	31	34	7	37	38	34
Total	90		19		109	

Alumni Location

Table 15 indicates whether the MPH alumni are exercising their profession in Cali (the location of the University of Valle), in Valle (the state in which Cali is located), or elsewhere. The location of the MPH alumni is important in this case because the University of Valle, a public state institution, and its Division of Health recognizes southwestern Colombia as its geographical sphere of influence. The Division's stated policy is to formulate health personnel which the region demands, without also restricting its student population on the basis of geography (Zafra, Note 25).

Cali is the preferred location of former alumni employment (55%), while the region in which Cali is located employs an additional 11% of the MPH alumni.

Current program alumni again chose Cali as their location (42%). However, the proportion of alumni working in other cities in the State of Valle doubled from 11% to 21%. While the percentage of alumni working in the region as a whole stayed the same, there were proportionately more people working outside of Cali than within the city.

The overall statistics for the group indicate that Cali has been the major source of employment for the MPH graduates (53%). When those alumni working in Cali are combined with those alumni working in the State, the aggregated regional total arrives at 66%. The number of alumni working outside the region is approximately a third of the program's alumni.

Notes

[1]While there are 31 MPH faculty members listed in the 1976 - 1977 catalogue, the data base for this section is the 1977 - 1978 MPH faculty. During that academic year, eight professors on the graduate roster were unavailable to teach. A full 75% of them had taken leaves of absence: four professors to do graduate work abroad (one each in England and Cuba, two in the United States); two to work (one each at the Colombian Ministry of Public Health and the Colombian Social Security Institute). Most of these faculty members were lecturers, a lower academic rank, who would benefit most from upgrading their professional credentials either through further education or significant employment. Another faculty member had resigned to take a permanent position in another region of the country. The remaining faculty member, a full professor, was on sabbatical leave at Harvard University.

[2]A degree in medicine is a professional degree as well as a basic first degree in Latin America. It is not equivalent to a U.S. graduate degree, but rather an undergraduate professional degree for the purposes of this paper.

[3]Full-time status gives the professor freedom to work at several institutions while also time to practice his profession. That is, he might not spend all, or even most of his time in academic activities. Only professors with "exclusive dedication" work at a particular institution exclusively (Renner, 1971, p. 196; Thompson et al., 1977, p. 385). In the year prior to field work for this study, 35% of the MPH faculty were "exclusive dedication."

[4]Of all the doctoral candidates on the MPH faculty, only one changed schools between the master's and doctoral programs, moving from Johns Hopkins to the University of Wisconsin.

[5]A proposal to start a medical sociology journal through the MPH department was rejected because the Valle Medical Record already published MPH articles, and similar journals in Chile and Mexico had not yet achieved their

objectives (UV, Note 24). The Valle Medical Record, while it is a much-utilized outlet for MPH publications, is considered by some faculty as not providing enough of an avenue for some areas important to social medicine, e.g., family welfare, health education and demographics.

[6]The major source on faculty grants is an official publication of the University of Valle research office which is acknowledged to be the first systematic compilation of this specific activity. It lists grants in progress during 1973 - 1974, grants which were a continuation of previous projects and those which constituted the base for future studies. Thus, MPH faculty members who were not at the University at that time were not included in that particular source.

[7]These departmental grants were sponsored by different entities and as such were not concentrated in any particular category.

[8]The application form requires a photograph of the prospective student, distinct from accepted procedure in U.S. graduate schools, where, in the interest of equal opportunity, it is illegal to require photographs with applications.

[9]This method of interview was selected after intensive discussion among the Committee members regarding the merits of (a) individual successive interview sessions vs. a panel format, and (b) standardized question approach vs. an open-ended discussion structure.

[10]This foreign student had been employed in El Salvador as a professor at that nation's university. Although no students came from other parts of Latin America, there had been interest expressed by a North American student, a Canadian, who deferred his admission until a later date.

[11]Sociology is not mentioned in the graduate catalogue as one of the professions which would be considered acceptable background for students in the MPH program. However, social science-oriented courses have remained an integral part of the MPH curriculum and a sociologist remains on the faculty.

[12]Egresados occupy a special status in Colombia and are considered highly trained professionals who are given jobs commensurate with their graduate education and experience. As such they are MPH alumni and are included in the alumni section which follows.

[13]The Division of Health library was initiated and expanded under the auspices of the Rockefeller Foundation.

[14]The privilege of utilizing the libraries outside the home institutions was relatively rare among the MPH programs surveyed by the Pan American Health Organization (PAHO); in its study of 18 such programs, only 22% of the programs had such access.

[15]The PAHO survey indicated an average of 3.2 classrooms available per graduate program with a range of one to nine classrooms per program.

[16]The region's PAHO survey indicated that, of the programs which made financial data available, only 2.8% of their monies emanated from international sources and fully 97.2% of their budgets came from national agencies, e.g., the government, the university itself, or the sale of services. Financial assistance from abroad is problematic, with attendant difficulties such as threats to university autonomy, rivalry between university units for such funds, implications for neocolonialism, and the weakening of indigenous programs.

[17]These figures are calculated at the official exchange rate in August 1977: 36.50 Colombian pesos per 1 U.S. dollar.

[18]The MPH budget allocation to salaries and operating expenses varies by only one percent when compared to other Latin American graduate programs of the same type as reported by PAHO's study. MPH's program allocates 14.6% of its budget for operation expenses and publications.

[19]At least 70% of the public health graduate programs in the region enrolled students who were similarly funded (by their employing institution).

[20]This figure is higher than the average per capita student cost of U.S. $1,157 found in other Andean public health graduate programs. The range for these programs was between a high of U.S. $8,828 to a low of U.S. $148 (Bobenrieth et al., 1977, p. 58).

[21]The disadvantages mentioned by the Graduate Committee in its consideration of this particular agreement are often cited by developing nations, e.g., threats of neocolonialism, interference in university operations by U.S. personnel, the creation of an imbalance between the two schools with a greater flow of resources outward to the U.S. than inward to Colombia.

[22]Similar master's programs in the region also limit their budget allocations for professional activities. As the following breakdown indicates, 86.3% is diverted for educational purposes, 4.8% for research, 4.2% for publications, and 4.6% for other services.

[23]One other woman, a research associate, was on the MPH faculty in 1976 - 1977. She was a University of Valle-trained physician.

[24]The most striking example of faculty collegiality occurred during the 1975 internal evaluation of the MPH program; all of the professors decided upon general policies and regulations for the newly formulated master's program.

[25]Already discussed under Students, the 19 current MPH students incorporates the 1976 - 1977 matriculation of 12 students and the 1977 - 1978 registration of 7 new students.

[26]There is a discrepancy in the 1976 - 1977 catalogue in the number of hours devoted to Health Services Administration accounting for the possible 120 hour difference in the total number of hours demanded.

[27]Although not a true occupational choice, it is pertinent to note that at least 15% of all MPH alumni do graduate study abroad since Colombia has no other advanced graduate programs in this field, many with financial assistance from external funding agencies.

[28]Although university research in Colombia is limited, investigation in health sciences accounts for more than 50% of all university research in that country ("Colombian structure of higher education," in Thompson et al., 1977, pp. 378-380).

[29]This particular foreign student received his undergraduate education in Spain, so it is speculative as to whether this student is employed in his native country.

[30]The Free University has branches in Bogotá and in Barranquilla, both of which have graduate programs. Although the parent institution is known to have graduate programs, the Cali branch does not. Therefore, it is listed as a four year school rather than as a graduate institution.

CHAPTER V

DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

To be effective, any system of graduate education must set and maintain certain standards of quality with respect to (a) faculty training and productivity, (b) student training and background, (c) physical and financial resources, (d) environment facilitating faculty-student interaction, (e) program completeness and rigor, and (f) alumni productivity. In addition, an effective program must have a clearly defined purpose and be administratively structured so as to be flexible enough to meet the changing needs of the students, the profession for which the students were being trained, and the nation as a whole.

The above factors, not system- or nation-specific, are applicable to any graduate program. In their generality, they provide a useful frame of reference by which to perceive Colombian master's programs as well as graduate programs in the United States. The variables derived from these factors, set forth in Chapter I, established the framework upon which the Master of Public Health program at the University of Valle was analyzed in Chapter IV.

In this chapter, the data in Chapter IV are integrated with the background in Chapter III to obtain some insight into the program's achievements and its needs, its strengths and its weaknesses, and to obtain some guidelines into the methodology that should be used in future evaluations of the quality of graduate education in developing countries.

The first section is a holistic profile of the MPH program. The second section draws some conclusions regarding admininstrative behavior in graduate program supervision in developing nations. The last section offers recommendations for future research.

Profile of the MPH Program

Viewed as a whole, the MPH program's most striking features are its flexibility, its relative autonomy, its strong reputation, and the high productivity of its alumni. Originally funded primarily by international agencies and staffed with professors trained abroad, the MPH program has come to rely increasingly on national funding and is beginning to employ more of its own alumni as staff. In addition, virtually all students obtain employment immediately upon graduation.

The University of Valle MPH program is an exemplary representative of advanced professional training programs in developing nations. It is a medically oriented graduate program in a country which has had the longest

experience of graduate education in medicine. It is housed within a University which has established an excellent reputation in the field of health. It is also a program patterned on the U.S. model of graduate education, having been infused with substantial monies from international assistance organizations such as the Rockefeller Foundation which designated the University of Valle as a "selected instrument", providing support over a 10 year period (Wagley, Note 51). Such endeavors were designed to build Colombia's system of higher education and, concomitantly, to contribute to Colombia's economic development.

The exigencies confronting the MPH program during its 20-year existence exemplify the problems besetting graduate education in developing nations as a whole as well as in Colombia. It had the best possible circumstances under which to flourish -- a progressive administration, plentiful sources of funding, solid linkages with the international community. However, after an 11-year period of stability, it had to make the transition from a medical specialization to a bona-fide master's level program. Confronted with declining enrollment, fewer resources and a diminishing reputation, the administrators of the MPH program realized that it was no longer functioning at optimal level. Thus, a year of intensive re-evaluation occurred in 1975.

This self-evaluation occurred during a somewhat tumultuous period in Colombian graduate education. An autonomous pro-

liferation of progams took place; there was a lack of planned, focused coordination to avoid duplication of resources. There were no legal statutes establishing norms for graduate degrees and no coherent efforts to maintain qualitative standards. Against this backdrop, Department of Social Medicine administrators attempted to develop a relevant, useful program.

In order to maintain standards, to insure the program's viability and to adapt it to community needs, the MPH program was exposed to the observations and criticisms of the public health community to determine its future role. The evaluation and the closing down of the program during its period of funding exigencies was very much the product of internal decisions by the Department of Social Medicine. So flexible was of the Department that it decided to set its own standards of quality control, maintain its own system of vigilance and evaluation and make an internal decision to close the program. Even before the 1980 reform, whereby ICFES was given authority to evaluate graduate education, the MPH administrators were attempting to determine standards which should be exhibited in an authentic graduate level program. The success of the reformulated program, as evidenced by the high productivity of the alumni and the improved reputation of *salubristas* , should be of considerable interest to future reformers of Colombian graduate education.

The development of the MPH program may be a good indicator of the future directions to be followed by Colombian graduate education in general, i.e., more national and less international funding, more nationally trained and fewer internationally trained staff, more emphasis on training and administration, and little emphasis on research. The factor-by-factor synopsis of the MPH program, below, thus may represent a pattern that will be repeated many times.

Faculty

Virtually every undergraduate degree and every medical specialization obtained by the MPH faculty was from a Colombian institution, which attests to the thoroughly indigenous character of the faculty background and training. Given that medical professionals frequently obtain their training abroad, during a 10-month period in 1980, ICFES validated 93 medical degrees from foreign institutions (ICFES, 1981). This fact is even more significant when it is seen that MPH faculty who travelled abroad did so only to get advanced training, rather than their basic professional degrees. It is not surprising that when the MPH salubristas went abroad, the majority attended U.S. institutions of higher education. Since an indigenously based graduate program, if it is to have upgraded faculty credentials, must continue to send faculty abroad for advanced training until it becomes available at home, it is highly likely that the University of Valle MPH program will continue to have staff trained away

from the home country. Many of the lowest rank professors (SL) were, in fact, on leaves of absence during 1977 - 1978, the majority of them to upgrade their credentials abroad. However, these people were MPH-trained and, as well, were planning to return after their training.

Research Productivity

Not surprisingly, most of the research productivity of the MPH faculty was focused on Latin America. Such research was published primarily as journal articles in Spanish, which is indicative that the MPH is a thoroughly national program, not under the influence of the developed nations.

The administration of research grants was the most important of all the anciliary professional activities. The team concept was prevalent in grant activity and several grants had a large number of investigators. Associate professors were the most active grant awardees, perhaps because the full professors had other responsibilities.

The PRIMOPS grant exemplifies an international funding system that enabled the MPH program to originate and develop. Under its support, numerous publications were disseminated and the Department of Social Medicine firmly entrenched its reputation for high community involvement.

Student Training and Background

The majority of students in the reformulated program received their undergraduate degrees in Colombia. Their academic backgrounds were varied, although the largest number of degrees had been obtained in medicine. The admissions process for the new MPH program (utilizing pretests and interviews) was an attempt by administrators to become selective in their choice of students while maintaining a "critical mass," minimizing the attrition rate, and maximizing the number of students completing the degree. However, admission standards in the new program were so high that it was necessary to offer a preparatory course in statistics.

The effort to maximize the number of students completing the program was successful in that eight of the 12 students entering in 1976 - 1977 had completed their requirements by the beginning of 1977 - 1978. This was a marked improvement over the previous program, in which only four students ever obtained the actual MPH.

Physical and Financial Resources

One of the strong points of the MPH program is the breadth of its physical facilities, already well established due to prior funding of the Division of Health by international agency aid. A key to its high visibility

during the current phase is increased through the designation of separate office space for the program. The initial infrastructure e.g., physical plant, computer system and libraries, was invaluable in making the MPH program viable. In addition, the Division of Health's willingness to upgrade the Department of Social Medicine facilities indicates the type of commitment necessary for a functional, continuing program.

Financial resources have proven to be a crucial determinant of the progress of the MPH graduate program. Faculty salaries have been low by both U.S. and Colombian standards, but the Department of Social Medicine has provided faculty with the opportunity to do community, team-based research. Such grants provide MPH personnel with additional financial support, albeit from myriad agencies. It was of considerable benefit that the University of Valle administrators were able to make the transition from total external funding sources to a joint sponsorship of grants (involving both national and foreign sources of financing), and then , to solely national monies. This smooth turn-over enhanced the research capability of the University and permitted the MPH personnel involved in grants to continue their work.

Although the foregoing draws an optimistic picture of the funding involved in the MPH program, there is also

another somewhat more pessimistic perspective. Student funding has fluctuated greatly, and as it fluctuates, so does the viability of the MPH program. So tied to outside sources of funding for its graduate students, that when the sources, i.e., Rockefeller, the Ministry of Public Health, suddenly became unavailable, the MPH program quickly changed its focus, precisely in order to draw upon alternative means of financing, e.g., the regional health services. There is evidence that the current program is still somewhat bound by the funding accorded it by the Ministry of Public Health since student fees for the program were tailored precisely according to the Ministry's specifications. It is clear that until the MPH program receives steady support for its graduate students, its indigenous success will be determined as much by monetary considerations as by the intellectual caliber of its faculty or students.

Environment

The environment within which the MPH faculty, administrators and students function is highly conducive to successful interaction, intellectual stimulation and mutual support. The faculty, many of whom are previous MPH students themselves, provide excellent role models for the students. The current students share a sense of comraderie, which the faculty very much stimulate.

The faculty, on the other hand, are themselves a mutually supportive group. The decision-making process among them is collegial. The Graduate Committee and the Graduate Coordinator are linked between professors and students; they provide a channel for grievances and suggestions, a place where academic solutions are reached but where standards are upheld.

Program

The reformulated master's program is composed of a highly structured curriculum, combining course work and an independent study component. The key to the readjusted MPH is a lessened emphasis on the highly specialized research aspects of a thesis, in exchange for a less ambitious Essay. Not surprisingly, the thesis was the only requirement most graduate students in public health never completed, choosing to enter the labor force instead. The MPH administrators attempted to address this issue in the most pragmatic fashion so that bona-fide MPH graduates would enter the labor market as efficiently as possible, with degree in hand.

Alumni

In a developing nation where every resource must be maximized without waste, it is especially important to see how well the Division of Health has fulfilled its regional

training function. Patterns in MPH alumni employment provide such a perspective.

Alumni of the MPH program have been productive in every sphere. A small percentage of the graduates have continued their education abroad. Data on their occupations once they return from abroad indicate that they all are productively employed, utilizing their talent and their graduate education.

Overall statistics indicate that the alumni go either into academics or into health services administration in approximately equal proportions. Thus, the dual purposes of the MPH graduate program have been fulfilled quite successfully. A close examination of the alumni involved in academia reveals that the University of Valle is the principle employer of the MPH teaching alumni, although the percentage has decreased over time. This tendency toward academic inbreeding becomes even more significant when it is observed that 55% of the current MPH/Department of Social Medicine faculty are comprised of MPH alumni.

First and foremost, the MPH program supplies the Valle region with health professionals. Information on the location of MPH alumni indicates that approximately two-thirds of the graduates remain within the region. A graduate trend is obvious, however: a dispersal of trained personnel more broadly based, not only in Cali

but throughout the entire state. The MPH students are fully employed after receiving their degrees, in positions for which their graduate training prepared them, serving the region.

Conclusions

The master's program in public health at the University of Valle has a pattern of growth and development over a 20-year period which typifies other indigenous graduate programs found in many developing nations.

Having started as a professional advanced training program, the MPH made the transition to a full-fledged master's program only to founder when the monies supporting its students were no longer forthcoming. The MPH program then changed its purposes and objectives to be concordant with its newly acquired situation.

A relatively autonomous and flexible administrative structure provided the impetus for a dynamic model of master's level graduate education over time. The MPH personnel used the transition from exogenous international support to indigenous national funding as an opportunity for creativity. It envisioned a high quality, strengthened graduate degree program with a more pragmatic focus, of benefit to its students and to the community as a whole.

Administrators of master's level programs in develop-

ing nations will have to incorporate the following guidelines should they desire their indigenous programs to flourish:

1) Graduate program administrators must maintain a sense of flexibility within a constantly changing environment.

2) Graduate program administrators must seek the support and, more importantly, a commitment from top university officials in terms of resources, ideas and personnel.

3) Graduate program administrators must be prepared for the eventual transition from international to national funding if their programs are to become high quality, self-sustaining and truly indigenous; they must seek funds from nontraditional sources.

4) Graduate program administrators must assure the graduate program's quality by making their degree goals very specific and pragmatic, so as to make its alumni more employable.

5) Graduate program administrators, in order to insure quality master's programs, must permit and even encourage periodic internal and external assessments.

Recommendations for Future Research

A dearth of research leaves many avenues yet to be explored in master's level indigenous graduate education

in developing nations. Consequently, the following studies would be appropriate: (a) an intra-group comparison of the University of Valle MPH with the two other MPH programs in Colombia; (b) another study of the University of Valle MPH program utilizing the newly developed ETS faculty, student and alumni questionnaires for assessment of master's programs (Educational Testing Service, 1981); and (c) comparisons with indigenous graduate programs in other developing nations.

APPENDIX

COLOMBIAN GRADUATE EDUCATION SURVEY PARTICIPANTS

1. Eduardo Aldana, University of the Andes
2. Benjamín Alvarez, Pontifical Javeriana University
3. José Alzate Zuluaga, University of the Andes
4. José Arias, ICFES
5. Daniel Bermeo, University of Valle
6. Alfonso Borrero, S.J., Pontifical Javeriana University and ASCUN
7. Jairo Charris, National University
8. Osmar Correal Cabral, National University and University of the Andes
9. Carlos Escalante, National University
10. Elizabeth Fong, United Nations Development Programme
11. Augusto Franco Arbalaez, ICETEX
12. Germán Jiménez Rozo, Ministry of Public Health
13. Francisco Leal, University of the Andes
14. Valentina Lim, United Nations Development Programme
15. Guillermo Llanos, University of Valle
16. José Augustín Lombana, Center for the Development of Nonformal Education
17. Rodolfo Low-Maus, The Ford Foundation
18. Alfonso Mateus, ICETEX
19. Carlos Medellín, ASCUN
20. Alberto Munera, Pontifical Javeriana University

21. Pablo Oliveiros Marmolejo, ICFES
22. Efraím Otero, COLCIENCIAS
23. Hipólito Pabón, University of Valle
24. María Eugenia Querubín, ICETEX
25. Guillermo Salazar, University of Valle
26. Estella Sánchez de Moore, ICFES
27. Jorge Sapoznikov, University of Andes
28. Humberto Serna, University of the Andes
29. Alonso Takahashi, National University
30. Elizabeth Ungar, University of the Andes
31. Antonio Vallejo, ICFES
32. Emily Vargas de Adams, The Ford Foundation
33. Eloisa Vasco Montoya, CAFAM
34. María Teresa de Vergara, Pontifical Javeriana University
35. William Wood, United Nations Development Programme

Note: Unless otherwise noted, these educators hold administrative,research and faculty positions at the agencies and institutions listed.

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Valentina Maxine Komaniecka was born 29 June 1948, the eldest of three daughters born to Max and Stanislava Komaniecki. She graduated from Rosary College, River Forest, Illinois,with a BA in political science and from the University of Florida, Gainesville, Florida, with an MA in Latin American studies. She has lived abroad in Ecuador and Colombia.

As befits her ethnic heritage, Ms. Komaniecka has long been involved in various aspects of international higher education, i.e., with US and foreign international educational exchange programs; with US and foreign students. She currently teaches at the University of Florida English Language Institute.

Upon graduation, she intends to find employment in the administration of international educational programs and to foster US-Latin American understanding. Her life-long goals are to run a marathon and to travel at least once around the world, retreating periodically to a cottage on Maine's seacoast.

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

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I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

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